APPENDIX D BIOLOGICAL RESOURCES TECHNICAL REPORT

THE BAYLANDS SPECIFIC PLAN

Biological Resources Technical Report

Prepared for
Metis Environmental Group

February 2025

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SUMMARY OF FINDINGS

The Baylands Specific Plan Biological Resources Technical Report

Environmental Science Associates (ESA) has prepared this Biological Resources Technical Report for the Baylands Specific Plan (Plan) to support compliance with the California Environmental Quality Act (CEQA) of 1970, as amended. The Plan area is located in the City of Brisbane (city) in San Mateo County. It includes a comprehensive plan for development of the 641.8-acre Baylands site, including goals, policies, and development standards and plans to guide future development actions. The Plan proposes the development of 2,200 residential units; 6.5 million square feet of retail, commercial, office, conference, research and development, and campus uses; and 500,000 square feet of hotel use. The Project also proposes relocation of the city's existing fire station and construction of a second fire station; construction of a school, open space, and parks and trails within the Plan Area; and construction of on- and off-site infrastructure.

As further described in the *Analysis Methodology* section of Chapter 4, to determine baseline conditions within the Plan area, ESA conducted biological resource reconnaissance surveys of the Project site in September 2022 and March 2023; reviewed available existing biological survey reports and previously prepared CEQA documents for the Plan area; and conducted natural resource agency database searches for the presence of special-status species. ESA evaluated the Plan's potential impacts to biological resources based on the project-specific thresholds of significance described in the *Project Thresholds* section of Chapter 4 of this Biological Resources Technical Report.

A detailed analysis of impacts to biological resources is provided in Chapter 5, *Impact Assessment*, which includes the following potential impacts associated with implementation of the Baylands Specific Plan (1) the removal of Callippe silverspot (*Speyeria callippe callippe*) butterfly habitat on Icehouse Hill; (2) the removal of wetland and non-wetland waters of the United States; (3) inadequate buffers between publicly accessible areas and sensitive habitats; (4) nesting birds and hoary bat roosts; and (5) bird strikes. Further, as discussed in Chapter 3, *Existing Conditions*, and Chapter 5, *Impact Assessment*, habitat on the Project site is highly disturbed as a result of various activities dating back to before the 1930s, including the placement of fill, grading, and development of infrastructure, as well as the colonization of the site by a wide assortment of non-native species, which is the primary factor leading to a lack of high-quality biological resources on the Project site.

Special-Status Species

Special-Status Plants

Because of historical, intensive land uses including as a former railyard and landfill and the related absence of native substrate from such areas, rare plants are not expected across most of the Project site. However, annual grasslands and coastal scrub habitats on the western edge of the Project Site on Icehouse Hill provide potential habitat for non-listed special-status plants, including bent-flowered fiddleneck, San Francisco collinsia, Choris' popcorn flower, and San Francisco campion. In-seasonal botanical surveys are still pending to determine the presence or absence of these species within this portion of the Plan area. If present, rare plants could be impacted during the construction of recreational trails on Icehouse Hill.

Callippe Silverspot Butterfly

With respect to the potential habitat for Callippe silverspot (*Speyeria callippe callippe*) butterfly and other federally listed butterfly species on Icehouse Hill, Coast Ridge Ecology completed butterfly surveys of Icehouse Hill in the spring and summer of 2023 for listed butterfly species that have the potential to occur on Icehouse Hill and concluded that, while federally listed butterfly species were not observed, because Icehouse Hill is within the flight range for these butterflies from known habitat in San Bruno Mountain, there may be Callippe silverspot larvae or pupae present in the leaf litter of the host plants.

As a result, impacts may occur to suitable habitat for the listed Callippe silverspot butterfly during restoration of Icehouse Hill and construction of recreational facilities and during operations.

Burrowing Owl, Nesting Birds, and Special-Status Bat Protection

Common and special-status migratory birds protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (FGC) may be seasonally present through much of the site. Hoary bat roosting habitat, also protected by the FGC, is intermittently present on the site. Active bird nests or hoary bat roosts could be harmed during construction activities including grading and vegetation removal, or while moving vehicles and equipment.

Buffer Areas

The Baylands Specific Plan does not provide specific standards for implementation of buffers and/or barriers between publicly accessible areas used by visitors and/or pets and sensitive habitats, such as mitigation areas, butterfly habitat, riparian and aquatic areas, and/or sensitive natural communities. Further, because the Open Space design contained in the Baylands Specific Plan is illustrative, it is possible that the final design could result in a plan that does not provide adequate buffers or barriers between publicly accessible areas and sensitive habitats.

Wetland and Non-Wetland Waters of the United States

Potential federal and state jurisdictional wetlands (seasonally saturated wetlands [freshwater] and estuarine [intertidal or tidal marsh] wetlands) occur on the Project site, along with open waters including Brisbane Lagoon and Visitacion Creek. On July 29, 2021, the U.S. Army Corps of Engineers (USACE) issued a Preliminary Jurisdictional Determination (PJD) based on a jurisdictional delineation prepared for the Baylands Specific Plan Project by Biohabitats on behalf of the Project Developer, BDI (Biohabitats, 2023b, Appendix 4).

The removal of wetland and non-wetland waters (i.e., jurisdictional resources) would occur as a result of grading activities along and within Visitacion Creek and the north shore of Brisbane Lagoon, which would constitute a potentially significant impact.

Subsequent hydrological improvements and vegetation restoration would occur at Visitacion Creek, which would include restoring/enhancing freshwater marsh and tidal marsh wetlands, as well as reconstructing the creek itself.

Wildlife Movement – Bird Strikes

The Baylands Specific Plan includes tall structures that have the potential to increase the number of bird strikes compared to current conditions, resulting in a potentially significant impact to wildlife movement. The implementation of effective bird-safe building treatments would eliminate or reduce bird mortality, including glazing treatments, building and fenestration strategies (e.g., architectural features), and design and operation of nighttime lighting. The bird-safe building treatments are guided by a performance standard issued by the American Bird Conservatory, which requires a bird collision “threat” rating (or Threat Factor) for each façade of each building of 30 or less, corresponding to a reduction of collisions of a least 50 percent.

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CHAPTER 1
Introduction

The Baylands Specific Plan site is located on a former railyard and landfill in the City of Brisbane, California (see **Figure 1**). The Project site is approximately 641.8 acres, including 520 acres of existing land area and an approximately 121.8-acre lagoon.

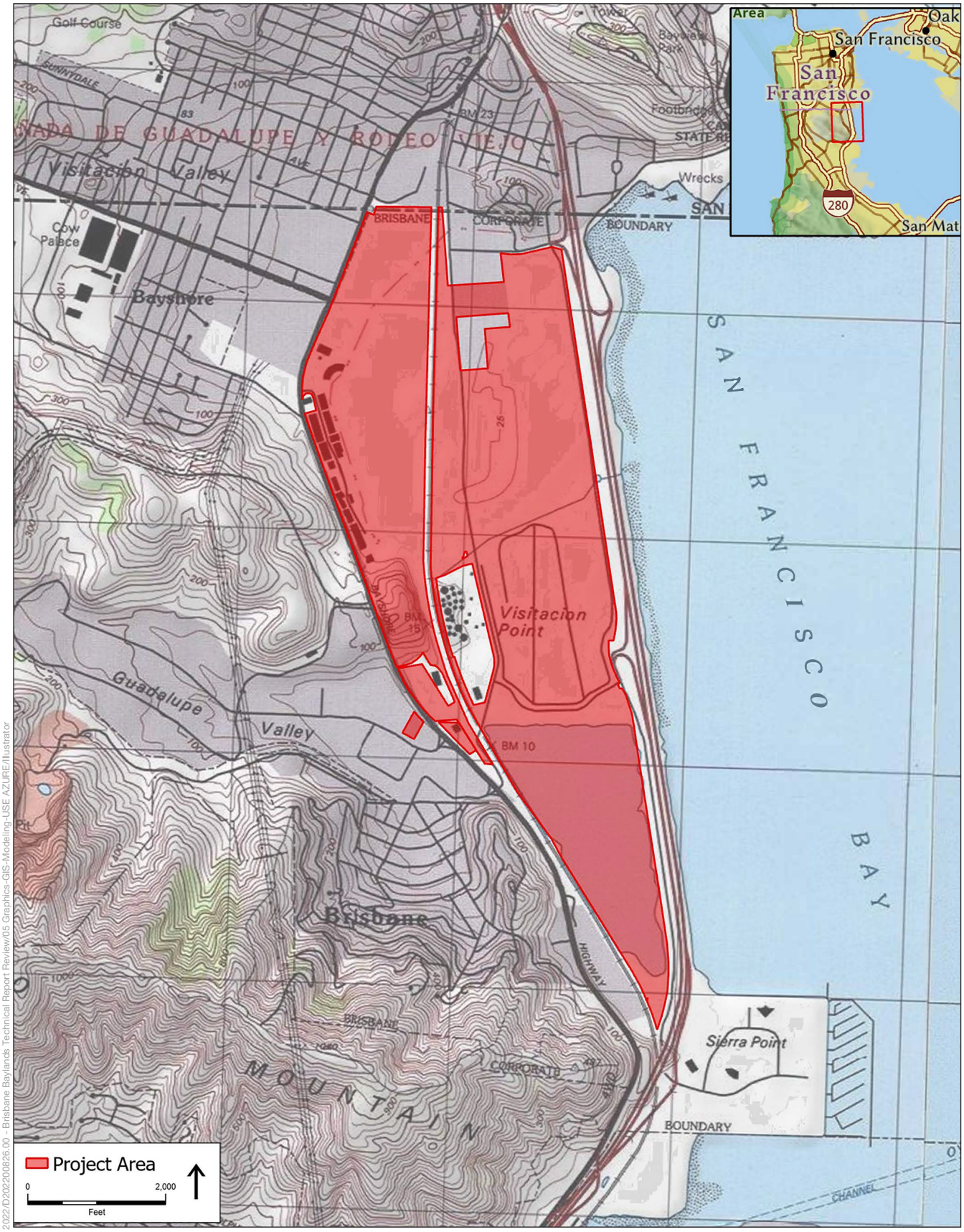
With the exception of Icehouse Hill, the Project site was once part of San Francisco Bay and was isolated by railroad tracks built on a causeway across the open water. Part of this open water area was later filled with debris from the earthquake and fires of 1906 and converted to a railyard. In the early 1930s, a landfill was established for municipal and shipyard waste. Construction of U.S. Highway 101 occurred in the mid-1950s, which created a new lagoon south of the landfill; this lagoon still exists today.

The Baylands Specific Plan proposes the development of 2,200 residential units and 6.5 million square feet of retail, commercial, office, conference, and research and development, and campus uses; 500,000 square feet of hotel use; a school, open space, and parks and trails and various infrastructure improvements within the Baylands Specific Plan site. In addition to the 641.8-acre Specific Plan site, off-site improvements are also proposed as part of the Project, consisting of the construction of a new fire station at 140 Valley Drive; the use of the existing fire station located at 3445 Bayshore Boulevard for training purposes; and the installation of waterlines through Bayshore Boulevard and Guadalupe Canyon Drive. The 641.8-acre Specific Plan site and the 11 acres of off-site improvement areas are analyzed in this report as the Baylands Specific Plan Project Area.

Project grading would remove existing state and federal jurisdictional waters of the United States, including wetlands, and other habitats, and redevelop the site into residential neighborhoods (high-, medium-, and low-density) and commercial developments (high-, medium-, and low-density), with new roads and infrastructure, energy infrastructure, a solar farm, detention basins, open space, and upland and wetland restoration areas.

Remediation of soil within the western portion of the site, which is contaminated with oil, lead, and other contaminants, along with formal Title 27 closure of the former landfill within the eastern portion of the site, is required to be undertaken subject to the oversight of state and county regulatory agencies prior to Project development.[1]

[1] Remediation and landfill closure would be implemented pursuant to the applicable Remedial Action Plans and Title 27 landfill closure requirements as approved by the applicable regulatory agencies (e.g., RWQCB, DTSC, San Mateo County Department of Environmental Health).



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SOURCE: ESA, 2023; USGS 7.5' Topographic Quadrangle (San Francisco South, CA)

Figure 1
Project Location

ESA

Environmental baseline conditions were documented in the city's 2018 Brisbane Baylands Final Program EIR and a subsequent habitat assessment (Metis 2023) and are collectively used in this Biological Resources Technical Report, as applicable, to support this analysis. Other surveys were conducted by Biohabitats between 2020 and 2022, which ESA also reviewed, independently verified, and used, including habitat assessments, biological resource plans, and a USACE-approved wetland delineation for the property (Biohabitats 2023a, 2023b, 2023c, 2023d, 2023e, 2023f, 2023g).

To determine current baseline conditions within the Plan area, and in advance of site reconnaissance surveys, ESA completed 2023 database searches of the California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS) Electronic Inventory, and the U.S. Fish and Wildlife Service (USFWS) species list to inform the likelihood of special-status species presence (CDFW 2024; CNPS 2024; USFWS 2024); and reviewed aerial photographs of the Plan area. Results of the database searches are provided in Appendix A, *Database Search Records*, of this report.

In September 2022 and February 2023, ESA conducted site reconnaissance surveys to assess the potential for the Baylands Specific Plan site to support and/or impact special-status species; sensitive natural communities, such as waters of the United States, including wetlands and non-wetland waters; wildlife movement corridors; protected trees; and habitat conservation plans. Furthermore, ESA contracted with Coast Ridge Ecology, LLC (Coast Ridge), to complete an assessment of Callippe silverspot, Mission blue, Bay checkerspot, and San Bruno elfin butterfly habitat at Icehouse Hill. This effort included four surveys conducted in April and June of 2023 to identify habitat types, butterfly host plants, butterfly nectar plants, and invasive species. Coast Ridge's report, titled *Butterfly Habitat Mapping and Restoration Opportunities at Icehouse Hill, Brisbane Baylands, Brisbane, CA*, is provided as Appendix B to this report.

This report evaluates potential impacts to biological resources that would result from implementation of the Baylands Specific Plan in the context of the existing site conditions and applicable regulations. The impact analysis considers the potential impacts to biological resources using the Baylands-specific thresholds of significance and is based on the findings of the resource review, references, and data collection described above. Impacts to biological resources may vary in duration and may be temporary, short term, or long term. The analysis is focused on impacts to sensitive biological resources that have a potential to be present on-site including, but not limited to, federally endangered butterflies that may occasionally use habitat on Icehouse Hill, fish or marine mammals that may be present in the Lagoon, nesting birds protected by the Migratory Bird Treaty Act, and bats protected under the California Fish and Game Code that may occur from implementation of the Plan. The analysis also responds to previously submitted wildlife agency concerns and comments as part of the 2018 Brisbane Baylands Final Program EIR, as well as the City's environmental requirements.

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CHAPTER 2
Existing Conditions

The Baylands Specific Plan area is located in the City of Brisbane adjacent to the San Francisco Bay, south of the City and County of San Francisco, along the west side of U.S. Highway 101 (see **Figure 1**). A portion of the San Francisco Bay was filled east of the historic shoreline to create what now includes a former railyard, former landfill, and existing small-scale industrial uses. Most upland habitats observed on site occur on this fill which overlies Bay mud. Icehouse Hill is the only remaining native substrate in the Baylands that was not filled or altered for infrastructure, landfill, or development purposes. Grading on the east side of Icehouse Hill occurred during railroad construction, and the western slope was cut to build Bayshore Boulevard. Substrate in the Icehouse Hill portion of the Baylands is consistent with nearby San Bruno Mountain and supports habitats similar to those found in the SBMHCP area. Drainages in the Baylands include Guadalupe Valley Creek and manmade Visitation Creek, while open water occurs within the Brisbane Lagoon, a remnant of the bay. These drainages and open water habitat, including wetlands and marsh habitats, are remnants of extensive wetland and tidal lands that once fringed San Francisco Bay in the Brisbane area (Metis 2022).

As required by CEQA Guidelines Section 15125(a), this Environmental Setting includes a description of the existing conditions at the Baylands Specific Plan site, including areas of off-site improvements, that provide the baseline condition‖ against which Project-related impacts are compared. This section presents existing conditions as of Spring 2023 (i.e., the environmental baseline) relative to biological resources on the Baylands Specific Plan site. Chapter 4, *Project Thresholds and Analysis Methodology*, provides a comprehensive description of the data sources consulted and the field surveys completed in support of this evaluation and analysis.

Soils

As illustrated by **Figure 2**, there are four soil types located on the Project site, which are further described below, in order of decreasing area (Biohabitats 2023b):

- **Unit 134 (68.1 percent/495 acres) – Urban land-Orthents, reclaimed complex, 0–2 percent slopes.** This soil type is the primary representative of the railyard and landfill. Within this complex, Urban land comprises about 65 percent, orthents about 30 percent, and other minor components are about 4 percent. Orthents are soils lacking horizon (layer) development.
- **Unit 131 (13.4 percent/97 acres) – Urban land.** These intensively disturbed soils at the northern and southern edges of The Baylands are different from Unit 134 in that they are not complexed with Orthents.

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SOURCE: Biohabitats, 2023

Figure 2
Soils Map

- **Unit 110 (1.5 percent/11 acres) – Candlestick-Kron-Buriburi complex, 30–75 percent slopes.** This soil unit represents the top of Icehouse Hill. It is typical of mountain backslopes and flanks and Candlestick, 25 percent Kron, and 20 percent Buriburi soils (the remaining 15 percent is minor components).
- **Unit 122 (1.4 percent/10 acres) – Orthents, cut and fill, 15–75 percent slopes.** These soils occur on the shoulders and slopes of Icehouse Hill. Like Unit 110, this type is typical of mountain backslopes and flanks, is weathered from sandstone, and is well-drained.
- NRCS also maps open water (15.7 percent/114 acres) described below under waters of the United States and Wetlands.

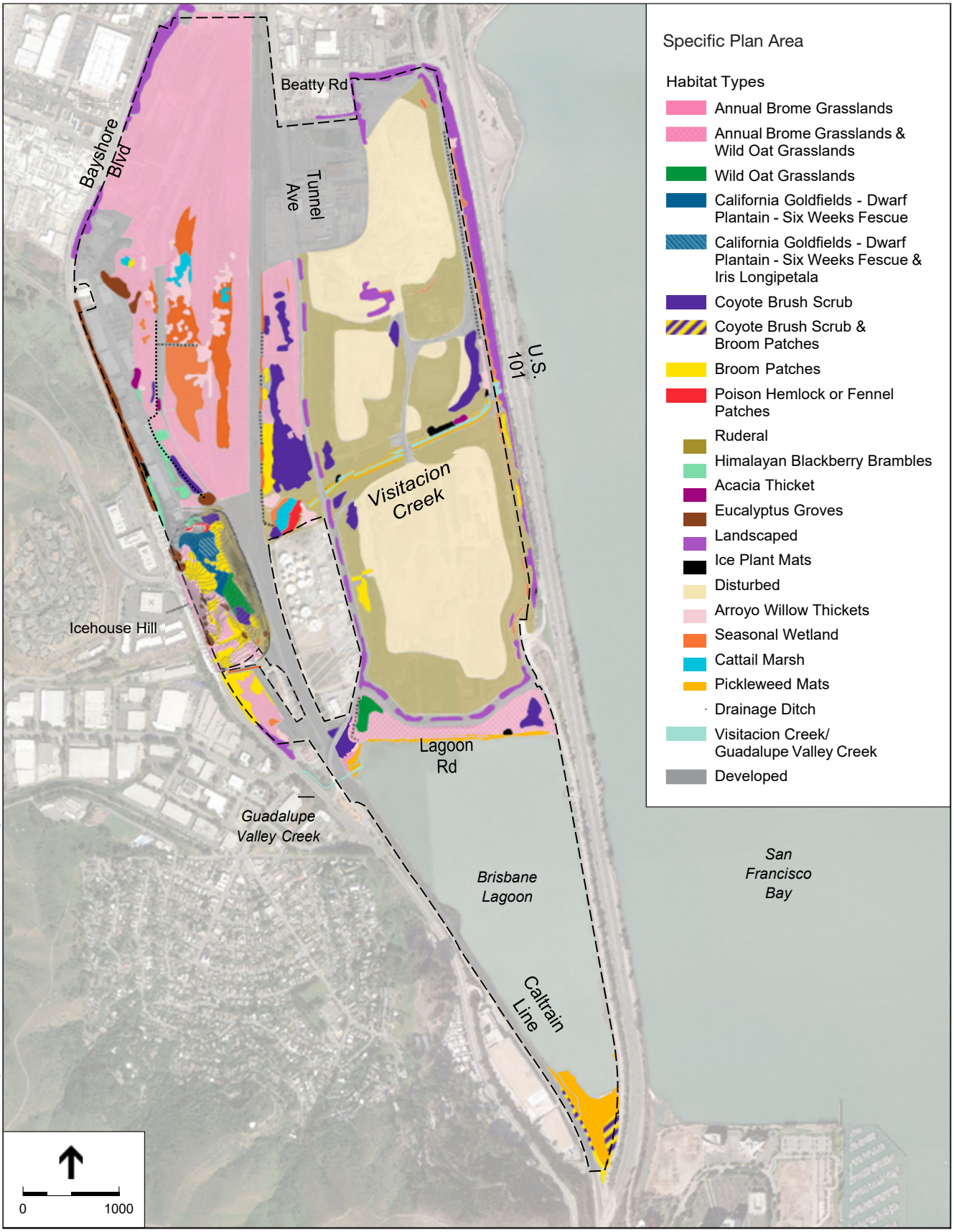
Topography

The former landfill and former railyard areas lie to the east and west sides of the Caltrain tracks. The former railyard is mostly flat except for regularly spaced berms piled up from surface grading. Following cessation of landfill operations, the area east of the railroad was used for soil recycling, resulting in mounds 40 to 60 feet high and encompassing an area of about 110 acres. The only native geologic feature within the Baylands is Icehouse Hill on the southwest edge, reaching about 200 feet above sea level (asl) (Metis 2022).

Terrestrial Vegetation Communities

Terrestrial vegetation communities were recorded by Metis (Metis 2022) in spring 2022 and are shown on **Figure 3** (Metis 2022) and summarized below:

- **California Goldfields-Dwarf Plantain Flower Fields (*Lasthenia californica – Plantago erecta – Vulpia microstachys* – Herbaceous Alliance).** With a well-mixed assemblage of grasses and forbs the California Goldfields – Dwarf Plantain Flower Fields (CGDP) habitat on Icehouse Hill supports a high density of native species. The native plants on Icehouse Hill include purple needlegrass (*Nassella pulchra*), California melic grass (*Melica californica*), tomcat clover (*Trifolium willdenvii*), variegated clover (*Trifolium varigatum*), buttercup (*Ranunculus californicus*), suncup (*Taraxia ovata*), California goldfields (*Lasthenia californica*), miniature and sky lupine (*Lupinus bicolor* and *L. nanus*), coast iris (*Iris longipetala*), yarrow (*Achillea millefolium*), yellow mats (*Sanicula arctopoides*), California checkerbloom (*Sidalcea malviflora*), toad rush (*Juncus bufonius*), blue wild rye (*Elymus glaucus*), western blue-eyed grass (*Sisyrinchium bellum*), soap plant (*Chlorogalum pomeridianum*), Coast Range mule ears (*Wyethia glabra*), California poppy (*Eschscholzia californica*), buckwheat (*Eriogonum nudum*), goldenback fern (*Pentagramma triangularis*), and California plantain (*Plantago erecta*). Johnny jump-up (*Viola pedunculata*), was observed in an abundance in the early spring and was evenly distributed across the top and northern slope of Icehouse Hill. As the growing season progresses, annual grasses become more dominant, with rattlesnake grass, little quaking grass, wild oat, and brome all blooming across this habitat. This habitat type is considered sensitive by the California Department of Fish and Wildlife (CDFW) California Natural Communities List (CDFW 2022).



SOURCE: Metis Environmental, 2022

Figure 3
Habitat Map

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- **Annual Brome Grasslands (Bromus [*diandrus*, *hordeaceous*] – *Brachypodium distachyon* – Semi-Natural Herbaceous Stands).** Grasslands dominated by brome species such as rip-gut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and false brome (*Brachypodium distachyon*) occur across the northern portions of the former railyard, the western side of Icehouse Hill and at various other locations across the Project site. Other species commonly found within the annual brome grassland include hop clover (*Trifolium campestre*), Bermuda buttercup (*Oxalis pes-caprae*), Italian thistle (*Carduus pycnocephalus*), black mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), Mediterranean barley (*Hordeum marinum* ssp. *Gussoneanum*), yellow starthistle (*Centaurea solstitialis*), wild fennel (*Foeniculum vulgare*), pampas grass (*Cordateria jubata*), bristly ox-tongue (*Helminthotheca echioides*), English plantain (*Plantago lanceolata*), and Italian ryegrass (*Festuca perennis*). In the former railyard areas, piles of pampas grass were observed throughout the northern portion of the former railyard in an apparent effort to clear this invasive species from the area. Between spring and fall the annual grasses fall over and sweetclover (*Melilotus alba*), wild fennel, horsetail weed (*Conyza canadensis*), and stinkwort (*Dittrichia graveolens*) bloom and reach their largest size. On the west side, north of the former railyard buildings, populations of common tarweed (*Centromadia pungens*) were also found blooming. On Icehouse Hill, it was observed that Bermuda buttercup is an early season co-dominant with false brome associated with the soil cut, where the western slope was graded to construct Bayshore Boulevard. This area was distinctive with the proliferation of Bermuda buttercup prior to annual grass species bloom (Metis 2022).
- **Wild Oat Grasslands (Avena [*barbata*, *fatua*] – Semi-Natural Herbaceous Stands).** Wild oat grasslands occur along the south side of Lagoon Way and on the south slope of Icehouse Hill. These habitats are dominated by wild oat (*Avena fatua*, *A. barbata*) in the early spring and transition to grasslands dominated by rattlesnake grass (*Briza maxima*) and little quaking grass (*Briza minor*) as the blooming season moves into summer. *Avena* spp. And *Briza* spp. Consist of greater than 50 percent cover within the grasslands. Associate grass species, with less than 50 percent coverage, include Italian ryegrass and velvet grass (*Holcus lanatus*). Ruderal (broadleaf) herbaceous species found throughout include many of the same associates as found within brome grassland, above including Italian thistle, black mustard, wild radish, bristly ox-tongue, and English plantain. Ruderal broadleaf plants that bloom in the late season between July and October become more prominent as the annual grasses finish their life cycle and species such as wild fennel, horsetail weed, and yellow starthistle appear dominant over flattened grasses (Metis 2022). South of Lagoon Way supports a mixture of wild oats and brome.
- **Perennial Rye Grass Field (*Festuca perennis* – Natural Herbaceous Stands).** Large patches of Italian rye grass dominate some slopes, presumably due to re-seeding during erosion management. This vegetation pattern changes depending on where soils have been deposited or grading has occurred, followed by hydroseeding. Due to the highly variable location of these areas, they are not mapped in Figure 3.
- **Coyote Brush Scrub (*Baccharis pilularis* – Shrub Alliance).** Stands of coyote brush (80–100 percent cover) form habitat nearing a monoculture through the flat lands of the abandoned railyard between the interior roads on either side of the Caltrain tracks and

extending east to Tunnel Avenue. The coyote brush vegetation varies between five- and 10-feet tall forming thick bands of shrubland habitat. Associates within the scrub consist of low growing herbaceous species including rip-gut brome, Italian rye, mustards, and other invasive weedy forbs generally occupying less than 10 percent of the ground cover. At the northeastern corner of Icehouse Hill this habitat is formed by varying percentages of coyote brush (dominant), and lower percentages of toyon (*Heteromeles arbutifolia*), poison oak (*Toxicodendron diversilobum*), yerba santa (*Eriodictyon californicum*), sticky monkey flower (*Diplacus aurantiacus*), buckeye (*Aesculus californica*), and elderberry (*Sambucus nigra* ssp. *Caerulea*). California polypody (*Polypodium californicum*) grows profusely along the northeast-facing slope of Icehouse Hill during the late winter and spring. In addition, beyond the fern-dominated substrates, the understory at this location supports forb species such as goldenback fern, soap plant, elegant brodiaea (*Brodiaea elegans*), two-tone everlasting (*Pseudognaphalium biolettii*), yarrow, and Ithuriel's spear (*Triteleia laxa*). Native perennial bunchgrasses including purple needlegrass, California melic grass and blue wild rye (Elymus glaucus) occur in association with non-native annuals such as little quaking grass and velvet grass among the understory vegetation.

A coyote brush-toyon-yerba santa (*Baccharis pilularis – Heteromeles arbutifolia – Eriodictyon californicum*) association (mapped as coyote brush scrub) occurs on the southern-facing slope of Icehouse Hill, with approximately 40 percent cover. The herbaceous vegetation between the shrubs is dominated by wild oats, little quaking grass, and rattlesnake grass (Metis 2022).

- **Poison Hemlock or Fennel Patches (*Conium maculatum – Foeniculum vulgare* – Herbaceous Semi-Natural Alliance)**. Poison hemlock and fennel are common and widely distributed across the Project site and can be found in strips in some locations and more generally dispersed throughout the various grasslands. In limited areas, the amount of fennel or poison hemlock was greater than 50 percent and was mapped as conforming to this habitat alliance designation. Other areas where the fennel or hemlock was less than 50 percent, as most often observed, was identified as ruderal, described below (Metis 2022).

- **Ruderal**. Ruderal communities are defined by a dominance of non-native broad leaf plants (dicots) which can give this habitat a shrubby appearance with vegetation sometimes up to 4 feet or more in height. In contrast, Annual Brome Grassland and Wild Oat Grasslands, for example, are generally shorter in height. Some of the grass species found in brome or wild oat grassland habitats may also be found as lesser components of the ruderal habitat type. Vegetation overlap between plant species among the non-native habitat types is common in California. The vegetative composition of ruderal communities demonstrates a prevalence of dicots over grass species.

  The vast majority of the ruderal habitat communities within the Baylands Specific Plan Area consists of lands which are vegetated with a mosaic of invasive forbs where one species does not have a greater than 50 percent dominance. Non-native broadleaves commonly observed include fennel, poison hemlock, various mustard species (*Brassica* spp., *Raphanus* spp.), Italian thistle, yellow star-thistle, bristly ox-tongue, red valerian, crown daisy (*Glebionis coronaria*), pride of madeira (*Echium candicans*), and pampas grass. Common shrubs such as French broom (*Genista monspessulana*), cotoneaster (*Cotoneaster* sp.), and pyracantha

(*Pyracantha crenato-serrata*) are common constituents as well. The native pioneer shrub species, coyote brush and toyon can also be found interspersed among the non-native forbs but generally consists of less than 10 percent cover. A few sapling gum trees (*Eucalyptus* sp.) are also found growing in some ruderal areas (Metis 2022).

The Project site supports large areas of ruderal vegetation to the north and south of Visitacion Creek in the former soils processing areas. On the eastern side of Icehouse Hill, the steep, rocky slope supports sparse wild oat and fennel vegetation at the upper half of the slope, while the southern slope near the toe of the escarpment is found with thick valerian (*Centranthus ruber*) and only a scattering of grasses and forbs. In the steepest locations, the slopes may be only thinly vegetated with annual grasses and can contain large swaths of bare ground. This area is best categorized as ruderal habitat due to the dominance of valerian and fennel where vegetation is present (Metis 2022).

- **Broom Patches (*Cytisus scoparius* and Others – Semi-Natural Shrubland Stands).** French broom forms a distinct monoculture on several slopes of Icehouse Hill, where it grows to a height of six to10-feet, forming a wall of vegetation. The herbaceous vegetation beneath the broom is limited due to lack of sunlight and the toxic nature of French broom foliage and seeds. Infestations of broom degrade the quality of habitat for wildlife by displacing native vegetation that are preferred forage species and by changing the microclimate conditions at the soil level (California Invasive Plant Council 2022). The acreage of broom has become larger within the Project site as the shrubs have spread across a greater surface area in comparison to 2013 (Metis 2022).
- **Pampas Grass Patches (*Cortaderia* [*jubata*, *selloana*] – Semi-Natural Herbaceous Stands).** Pampas grass patches were common across the northern portion of the Baylands in 2019. In 2022 pampas grass was sprouting from the piles that were created during earlier bulldozer clearing activity (Metis 2022).
- **Acacia Thicket.** Wattle (*Acacia* spp.) primarily and some escaped ornamental fruit trees (*Prunus* spp.) are also a component of the former invasive scrub habitat. Species of acacia in the thicket included *Acacia dealbata*, *A. longifolia*, *A. melanoxylon*, and *A. pycnantha*. The clusters of wattle have been called acacia thickets on the habitat map (Figure 3). Ornamental fruit trees are found sporadically within the Acacia thickets, especially along Bayshore Boulevard in fewer numbers and are more diffuse in distribution. Broom, Pampas grass and acacia are found growing on uplands surrounding Brisbane Lagoon, adjacent to the eastern side of Bayshore Boulevard, in various locations on Icehouse Hill, and within the interior of the Project site (Metis 2022).
- **Himalayan Blackberry Brambles (*Rubus armeniacus* – Semi-Natural Shrubland Stands).** Himalayan Blackberry exists to the north of Icehouse Hill, east of the industrial complex along Bayshore Boulevard. Thick swaths of Himalayan blackberry (*Rubus armeniacus*) occur forming impenetrable brambles, spreading to the north from this region. Himalayan blackberry is an invasive weed identified by the California Invasive Plant Council with aggressive growth patterns that limit other native vegetative growth and overtakes pastures and riparian corridors (Metis 2022).

- **Eucalyptus Groves (*Eucalyptus* [*globulus*, *camaldulensis*] – Semi-Natural Woodland Stands).** Several groves of blue gum trees (*Eucalyptus globulus* and *Eucalyptus* spp.) were observed to form a contiguous habitat type along Bayshore Boulevard. Gum trees occur between Bayshore Boulevard and the former railyard property on Bayshore Boulevard to the north forming eucalyptus groves. Several locations to the east also support Eucalyptus trees as well. Eucalyptus is identified by the California Invasive Plant Council as reducing the biodiversity beneath their canopy. Below the canopy of eucalyptus trees, heavy debris from the shedding tree bark and the allelopathic chemicals released by the leaves, occur which make inhospitable soils that do not allow for the growth of many annual or perennial native or weed species (Metis 2022).
- **Landscaped.** Landscaped habitat includes minor landscaped areas associated with some buildings and the plantings of trees as street borders with lollipop tree (*Myoporum laetum*), pine (*Pinus* ssp.), red and white bottlebrush (*Callistemon viridiflorus* and *Callistemon salignus*) wattle (*Acacia* spp.) and other non-native ornamental species. Landscaped habitat occurs between the soils processing operations area and the adjacent roadways that surround the Project site including the north side of Lagoon Way, the east side of Tunnel Avenue, the north side of Beatty Ave, and west side of U.S. Highway 101 between the highway and the former soils processing area. Along U.S. Highway 101, Landscape vegetation is dense in association with a man-made drainage ditch and supports some scattered arroyo willow (*Salix lasiolepis*) trees where water may inundate the area for a longer time period. This landscaped vegetation has naturalized, and many ornamental trees and shrubs self-propagate. The understory vegetation and gaps between the trees in the landscaped areas consists of English ivy (*Hedera helix*) and white ramping fumitory (*Fumaria capreolata*) (Metis 2022).
- **Ice Plant Mat (*Carpobrotus edulis* or Other Ice Plants – Semi-Natural Herbaceous Stands).** Ice plant (*Carpobrotus* spp.) is known to spread horizontally across the ground or soil surface and smother other vegetative species that could potentially occur. It changes the soil chemistry making it inhospitable to many other native herbs after it is established and causes residual effects to vegetation growth once it is removed. Several locations within the Project site have been observed with ice plant mats. Ice plant is identified by the California Invasive Plant Council as responsible for decreasing vegetative diversity. The mats on site occur adjacent to native pickleweed mats and likely reduce surface areas over which the pickleweed could potentially grow (Metis 2022).
- **Disturbed.** The areas within the soils processing site on the east side of the Project site have been continually disturbed through earth moving, earth and debris dumping, and tractor operation for many years. These areas do not support vegetation. These areas exhibit bare earth, debris such as concrete, asphalt and/or various-sized rock and there are no habitat values relating to vegetation associated with these disturbed areas (Metis 2022).

The majority of the upland habitats observed on site occur on fill over Bay mud, with the exception of Icehouse Hill, which represents a segment of the historical bay margin. Icehouse Hill is an upland feature that is the only remaining native substrate in the Baylands that has not been filled or severely altered for infrastructure or development. Some grading on the east side of

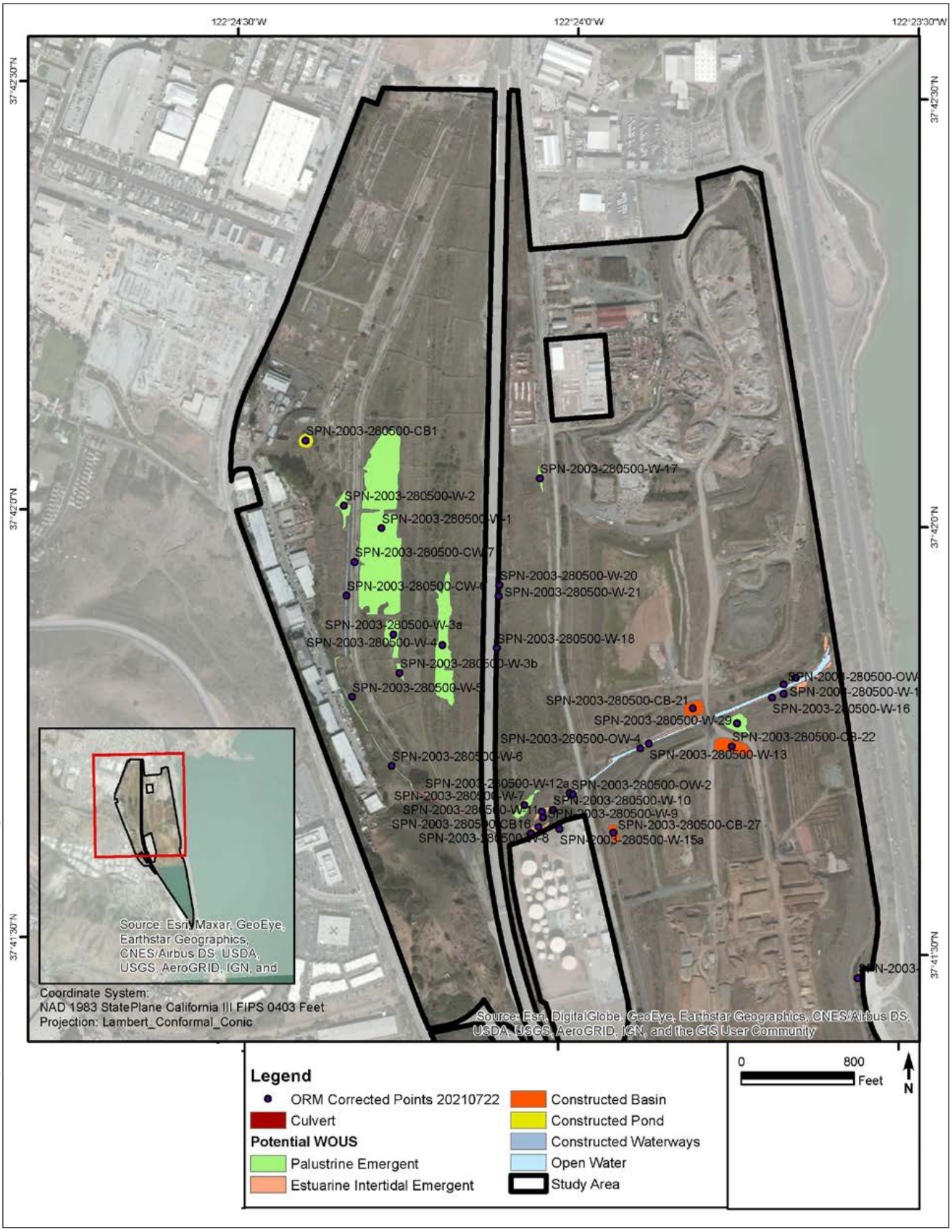
Icehouse Hill occurred during the construction of the railroad, and, likewise, the western slope was altered to build Bayshore Boulevard.

After the closure of the former railyard located in the western portion of the Baylands and directly adjacent to Icehouse Hill, the heavily disturbed land surface established on top of fill placed in the Bay was colonized and populated by a wide assortment of non-native weeds which are listed on the California Invasive Species Council Inventory of Invasive Plants. The compacted and contaminated soils in the former railyard and the portion of the site that was previously a landfill operation have experienced frequent disturbance over a long period of time. Except for seasonal wetland areas in depressions and low-lying areas or in tidal drainages these areas are dominated by non-native species or do not support vegetation at all. In summary, habitat on the Project site is highly disturbed as a result of various activities dating back to before the 1930s, including the placement of fill, grading, and development of infrastructure, as well as the colonization of the site by a wide assortment of non-native species.

Waters of the United States and Wetlands

Waters of the United States are defined by the Code of Federal Regulations (CFR), in 40 CFR 230.3(s), which states that "the term waters of the United States means: (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) All interstate waters including interstate wetlands; (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters." For purposes of this report, waters of the United States (or waters of the U.S.) include both jurisdictional wetlands and non-wetland waters (e.g., estuarine intertidal rocky shore, open water, and constructed waters). In this report, the terms wetland and non-wetland waters are used to describe areas within the Project site that are subject to USACE jurisdiction.

Two types of jurisdictional wetlands are present on-site: seasonally saturated (rain-dependent freshwater) wetlands, which accumulate precipitation in shallow depressions, and estuarine intertidal (tidal marsh) wetlands, which were formed as a result of tidal action through culverts into the manmade channel of Visitacion Creek and along the shore of the Brisbane Lagoon where fringe marsh has developed (Biohabitats 2023b). The extent of wetlands and non-wetland waters located on the Baylands Specific Plan site, as contained in the Baylands *Wetland Delineation Report*, which was verified by USACE in the July 2021 PJD (Biohabitats 2023b, Appendix 4), is provided by **Figure 4a**, **Figure 4b**, and **Figure 4c**. In addition, **Table 1** shows existing USACE jurisdictional wetland and non-wetland waters (i.e., waters of the United States) that are located on the Project site, totaling 137.53 acres, including 19.88 acres of wetlands and 117.65 acres of non-wetland waters.

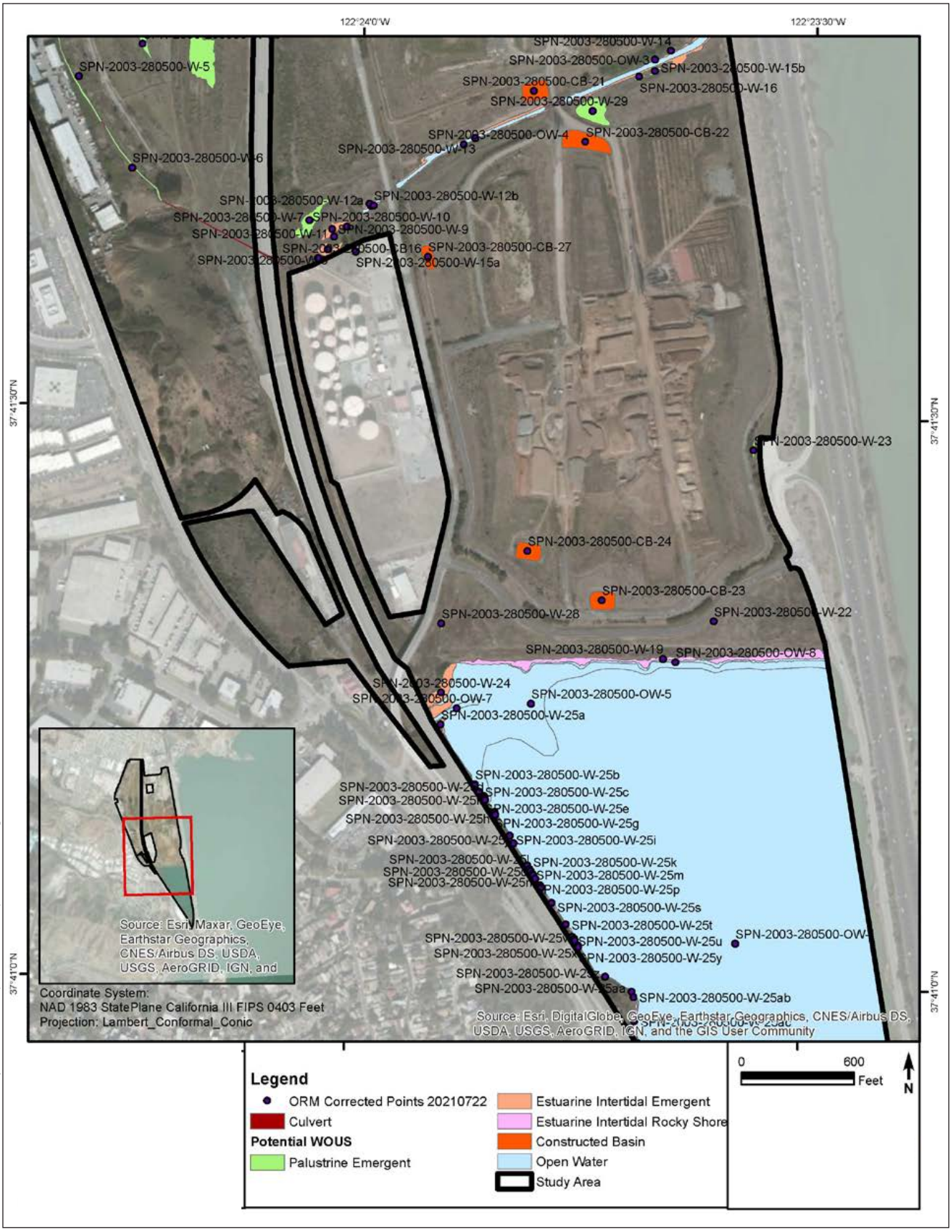


2022/D20220826.00 - Brisbane Baylands Technical Report Review/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: BioHabitats, 2023

Figure 4a
Delineated Wetlands and Non-Wetlands Waters of the U.S. - North

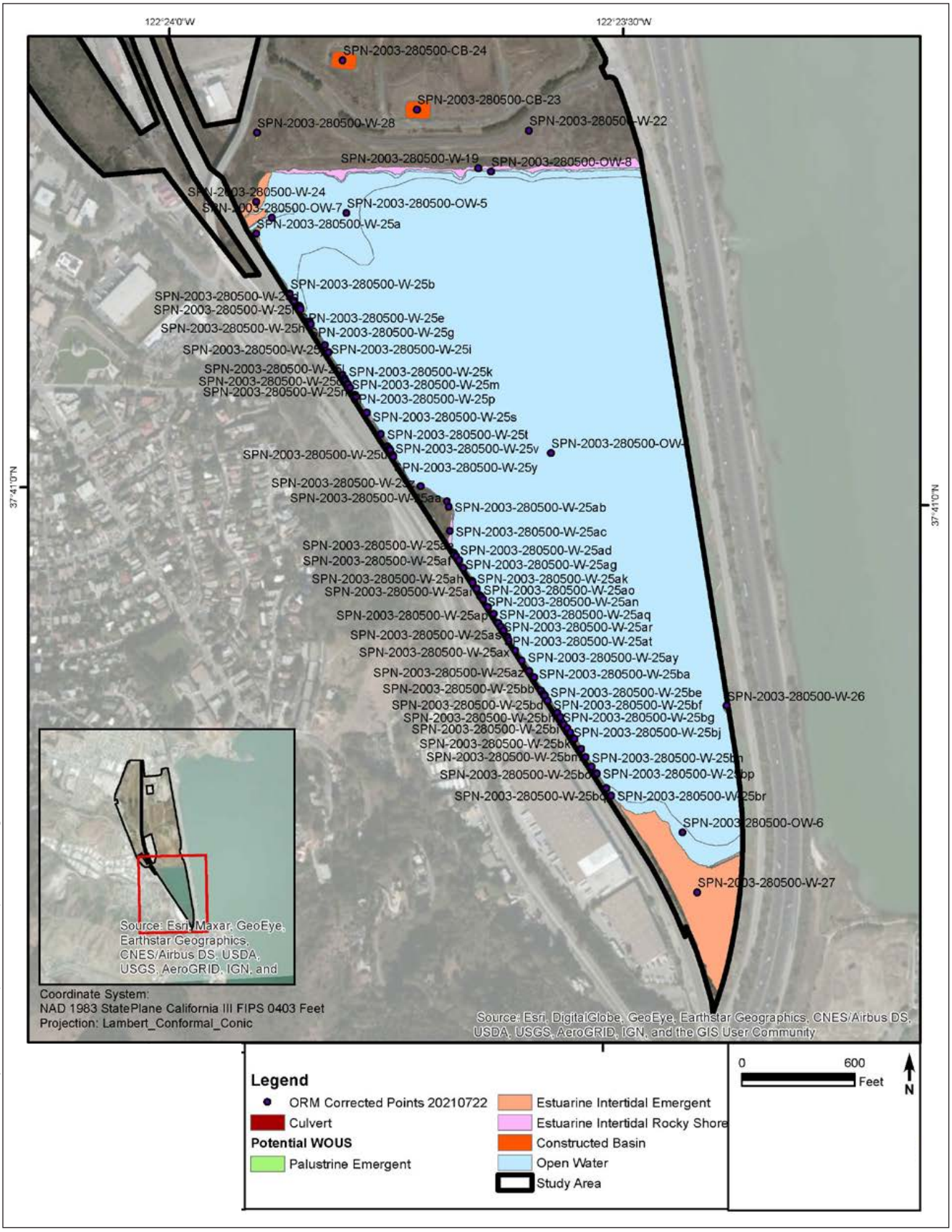
ESA



2022/D20220826.00 - Brisbane Baylands Technical Report Review/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: BioHabitats, 2023

Figure 4b
Delineated Wetlands and Non-Wetlands Waters of the U.S. - Center



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SOURCE: BioHabitats, 2023

Figure 4c
Delineated Wetlands and Non-Wetlands Waters of the U.S. - South

TABLE 1
EXISTING USACE JURISDICTIONAL WETLANDS AND NON-WETLAND WATERS PRESENT ON THE PROJECT SITE

	Type	Hydrology	Existing Amount
Wetlands			
Wetland	Palustrine Emergent	Freshwater	11.72 acres
Wetland	Estuarine Emergent	Intertidal Marsh	6.43 acres
Wetland	Constructed Basin	Seasonal	1.73 acres
Subtotal Wetlands			*19.88 acres*
Non-Wetland Waters			
Non-wetland waters	Open Water	Open Water	116.07 acres
Non-wetland waters	Estuarine Rocky Shore	Intertidal	1.32 acres
Non-wetland waters	Constructed Waterway	Seasonal	0.26 acres
Subtotal Non-Wetland Waters			*117.65 acres*
Total Wetlands and Non-Wetland Waters			***137.53 acres***

SOURCE: Biohabitats 2023b (Wetland Delineation), representing the acreages accepted by the verified PJD from July 2021.

There are two primary surface water features located within the Baylands Specific Plan Area: Visitacion Creek and the Brisbane Lagoon. Visitacion Creek is a manmade channel located in the central portion of the Project site. Water runoff from Bayshore Heights west of the Baylands flows through an old brick culvert into a timber box that emerges from under the Caltrain rail embankment and flows into the open channel. Visitacion Creek (about 2,340 feet of open water) ultimately discharges into San Francisco Bay. The tide is the dominant hydrologic influence on the marsh fringe of Visitacion Creek (Biohabitats 2023b).

Brisbane Lagoon is a vestige of the Bay that was not filled following construction of U.S. Highway 101. It has limited marsh on its riprapped north and west shorelines (1.10 acres) and well-established tidal marsh on its northwest corner and south areas (0.40 and 4.90 acres, respectively). Tidal marsh fringe along the shoreline of Brisbane Lagoon formed in response to the muted tidal exchange between the Bay and the lagoon through two box culverts. The lagoon also receives freshwater inflow from the Guadalupe outlet in the northwest corner; however, the tide from the Bay is the dominant hydrologic influence (Biohabitats 2023b).

The following wetland vegetation communities occur on-site:

- **Arroyo Willow Thickets (*Salix lasiolepis* Shrubland Alliance).** Arroyo Willow Thicket in the study area is composed of multi-trunked or multi- stemmed arroyo willow trees forming dense clusters of vegetation. This habitat occurs in association with wetland hydrology where wetlands have formed in the former railyard, to the north of the Kinder Morgan tank farm adjacent to the western leg of Visitacion Creek, along the drainage ditch on the west side of U.S. Highway 101, on a narrow drainage ditch inlet to Visitacion Creek, at the northwestern corner of Brisbane Lagoon, and at the southern toe of Icehouse Hill. The arroyo willow shrubland alliance is considered sensitive by CDFW California Natural Communities List (CDFW 2022).

- **Seasonal Wetlands.** Seasonal wetlands on-site support water from the onset of the rainy season in winter and are saturated through late spring, then typically dry up during the summer months. Seasonal wetlands generally occur in association with shallow topographic low points where drainage outlets are lacking or can occur adjacent to drainage ditches and creeks. Rainwater, or water from sheet flow originating on site, fills local depressions for many continuous weeks during the rainy season allowing for the germination of hydrophytic plants. In some cases, the extended period of inundation prevents the germination of any vegetation and the basins are bare. Alternately, vegetation can be abundant and the seasonally inundated wetlands support annual and perennial vegetation such as rabbit's foot grass, nut-sedge (*Cyperus eragrostis*), bird's foot trefoil (*Lotus corniculatus*), bristly ox-tongue (*Helminthotheca echioides*), spikerush (*Eleocharis macrostachya*), Mediterranean barley, cattails (*Typha latifolia*), river bulrush (*Shoenoplectus fluviatilis*), brownhead rush (*Juncus phaeocephalus*), fat-hen (*Atriplex prostrata*), Bermuda grass (*Cynodon dactylon*), Bolander's rush (*Juncus bolanderi*), loosestrife (*Lythrum hyssopifolia*), and cutleaf plantain (*Plantago coronopus*).

  Seasonal wetlands were identified in the north-eastern corner of the former soil processing facility near Beatty and U.S. Highway 101, at the southwestern corner of the Project site in the vicinity of the northern terminus of Sierra Point Parkway at the U.S. Highway 101 on/off ramps and in shallow depressions on the western side of the landscape vegetation parallel to U.S. Highway 101. The former railyards support large areas of Seasonal wetlands in association with arroyo willow thickets. A mosaic has formed among the willows with the aforementioned herbaceous species distributed by inundation period within the shallow basins formed in the area. Several small seasonal wetlands are also found at the southern toe and slope of Icehouse Hill (Metis 2022).

- **Cattail Marshes (*Typha angustifolia*, *domingensis*, *latifolia*] Herbaceous Alliance).** Narrow leaf and broadleaf cattail (*Typha angustifolia* and *T. latifolia*) were recorded at the Project site in a monoculture emerging from depressions inundated with water. Cattail marsh habitat is found in the center of the former railyard and at the center of the roundhouse structure where the turntable once operated. Cattail marsh also proliferates adjacent to the east of the Caltrain tracks in the central portion of the Project site along drainage ditches. The lands to the north of the Kinder Morgan tank site similarly support cattail marsh (Metis 2022).

- **Pickleweed Mats (*Sarcocornia pacifica* [*Salicornia depressa*] Herbaceous Alliance).** Pickleweed mats are dominated by the species pickleweed (*Sarcocornia pacifica*), which forms a dense mat across the silty and/or muddy substrates that have a saline influence due to bay connections. The soils within the Brisbane Lagoon and Visitacion Creek combined with the influx of brackish water from San Francisco Bay promotes the growth of halophytes such as pickleweed along the edges of these water bodies. The pickleweed mats can be as narrow as a few feet and extend to a width of 200 feet in some locations, such as at the south end of the Brisbane Lagoon. Pickleweed habitat can support other common tidal salt marsh species such as saltgrass (*Distichlis spicata*), alkali heath (*Frankenia grandiflora*), fat-hen (*Atriplex prostrata*), gumplant (*Grindelia stricta* var. *angustifolia*) which are found commonly along Visitacion Creek and the edges of the Brisbane Lagoon. Several shrubs of quail brush (*Atriplex lentiformis*) were observed to occur along the western edge of the Brisbane Lagoon at the high

tide line above the pickleweed mats in February 2022 (Metis 2022). The pickleweed mat alliance is considered sensitive by CDFW California Natural Communities List (CFDW 2022).

Pickleweed mats occur within the Project site along the north and south channel edges of Visitacion Creek and at its east end and bordering the northern shore and southern end of the Brisbane Lagoon. Pickleweed mats occur at the northwest corner of the lagoon in conjunction with a drainage fan of Guadelupe Valley Creek. The southernmost tip of the Brisbane Lagoon supports the largest contiguous acreage of Pickleweed mat within the Baylands. Large stretches of the lagoon are covered with riprap which is unvegetated (Metis 2022).

- **Freshwater Drainage.** Freshwater drainage ditches occur in the northern portion of the Baylands consisting of both artificially created and naturally developed drainage channels that support herbaceous wetland vegetation. Vegetation within the drainage habitat can consist of seasonal wetland species, but in some areas freshwater drainages do not support vegetation where they are lined with concrete or plastic. The channels generally are linear in configuration and move water across the Project site (north to south) to receiving bodies downstream (Visitacion Creek) or to the Brisbane Lagoon (Metis 2022).
- **Tidal Wetland Drainage (Visitacion Creek).** Visitacion Creek is a tidal wetland drainage where pickleweed mats line either side of the bank forming an average 7-foot-wide band of vegetation beginning at the ordinary high-water line extending up the bank. Visitacion Creek is connected directly to San Francisco Bay through a concrete box culvert beneath U.S. Highway 101 and thus is tidally influenced. Throughout the day, the water elevation along the creek varies from the top edge of the pickleweed at high tide to exposed mud flat on either bank during low tide levels. Fresh water enters Visitacion Creek from the west and the north and the creek is a main channel for local drainage (Metis 2022).
- **Mudflat.** Mudflats are present adjacent to the low tide line along Visitacion Creek and at the creek's box culvert leading to the outfall to San Francisco Bay. Mudflats occur within the boundary of the Brisbane Lagoon at the northwestern corner and the southern tip in association with pickleweed mats. The mudflats have formed as a result of fine sedimentation (accretion) and the brackish water and long duration of inundation limits the vegetation growth. The very limited nature of the surface area of mudflats were not mapped along the Visitacion Creek channel edges but are visible along Brisbane Lagoon (Metis 2022).

Special-Status Species

As stated above, most of the Project site is covered by ruderal and invasive vegetation species, reflecting its history of disturbance and infill. Also present are native shrubs, saltgrass, riprap and tidal marsh, and open waters of Visitacion Creek and Brisbane Lagoon. These habitats host common species of butterflies, small mammals, reptiles and amphibians, fish, aquatic invertebrates, songbirds, waterbirds, and shorebirds.

Special-status species are plants and animals legally protected under the federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA), or other regulations or policies such as the California Fish and Game Code, the Migratory Bird Treaty Act (MBTA), California Species of Special Concern, plants identified as rare by CDFW or the California

Native Plant Society (CNPS). More information on these regulations and the agencies that implement their protections is provided in the Regulatory Context section. Database searches of the CNDDB, CNPS Electronic Inventory, and the USFWS Information for Planning and Conservation (IPaC) species list were used to identify special-status species and designated critical habitats.[2] The potential for special-status species to occur at the Project site is shown in **Table 2**. While Table 2 evaluates a wide range of species with a potential to occur on the Project site. Of the analyzed species, four special-status plants, Callippe silverspot butterfly, bay checkerspot butterfly, monarch butterfly, and Alameda song sparrow were determined (in Chapter 5) to have suitable habitat on the Project site and, therefore, a potential to occur. In addition, three special-status fish were determined to have moderate potential to occur in Bay waters near the Project site: steelhead trout, green sturgeon, and longfin smelt. Chapter 5, *Impact Assessment*, discusses those species with a moderate or greater potential to occur on the Project site.

Wildlife Corridors

Presently there is little potential for terrestrial wildlife movement through the Baylands Project site. Physical barriers to wildlife movement are created by major roads and highways, industry, railroad tracks, pipelines, and fences. Wildlife may move along Visitacion Creek and within the freshwater marshes in the western portion of the site.

Fish and other aquatic species may enter Baylands waters through culverts under U.S. Highway 101, but these waters do not provide or connect to spawning habitat for any species, so fish and marine mammals would only stray in or visit while foraging.

None of the four butterfly species were observed on Icehouse Hill during the recent surveys (Biohabitats 2020 [as contained in Biohabitats 2023c] or ESA 2023 [as reported by Coast Ridge 2023]). Icehouse Hill provides habitat patches for certain species with a potential wildlife connection to habitat on San Bruno Mountain. The distance between Icehouse Hill and the easternmost point of San Bruno Mountain is within the potential dispersal distance for Mission blue and Callippe silverspot butterflies, as further discussed below in Threshold 1. However, while host plants for the Callippe silverspot butterfly are present on Icehouse Hill, only small numbers of *Plantago* host plants (for the Mission blue butterfly) are present on Icehouse Hill (Coast Ridge 2023).

One small patch of the host plant for the Bay checkerspot butterfly, *Plantago erecta*, was detected at the southeastern corner of Icehouse Hill; however, although the host plant for the species were detected at Icehouse Hill, it is unlikely that Bay checkerspot butterflies have dispersed to Icehouse Hill as a result of the large distance (over 1 mile) between Icehouse Hill and the areas where the species is present on San Bruno Mountain (Coast Ridge 2023).

[2] Critical habitat is habitat designated by USFWS as specifically defined in FESA Section 7. Critical habitat includes the specific areas occupied by a federally listed threatened or endangered species at the time it was listed that contain the physical or biological features that are essential to the species and that may need special management or protection. Critical habitat may also include areas that were not occupied by the species at the time of listing but are essential to its conservation. In contrast, suitable habitat is habitat featuring ecological characteristics that may provide for the breeding, feeding, resting, or sheltering of any endangered and/or threatened wildlife species.

TABLE 2
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR WITHIN THE PROJECT SITE

Common Name	Scientific Name	Listing Status: Federal/State/ Other	Habitat	Potential to Occur in Project Area
Plants				
Franciscan manzanita	*Arctostaphylos franciscana*	FE/—/1B.1	The original natural setting for this species is presumed to be bluffs and hills surrounding San Francisco Bay.	**Absent.** The five known individual Franciscan manzanita plants all occur in the Presidio of San Francisco and are under cultivation. This species was not observed during surveys and is not expected on the Project site.
San Bruno Mountain manzanita	*Arctostaphylos imbricata*	—/CE/1B.1	Restricted to chaparral and coastal scrub habitats on San Bruno Mountain.	**Absent.** No chaparral present on the Project site. No manzanita observed in coastal scrub on the Project site.
Bent-flowered fiddleneck	*Amsinckia lunaris*	—/—/1B.2	Coastal bluff scrub, valley and foothill grassland.	**Moderate.** Potential habitat exists on Icehouse Hill. Documented from San Bruno Mountain (CDFW, 2024).
San Francisco collinsia	*Collinsia multicolor*	—/—/1B.2	Sometimes on serpentine soils in coastal scrub.	**Moderate.** May occur in coastal scrub habitat on Icehouse Hill. Occurs on nearby Bayview Hill and on San Bruno Mountain (Wood, 1996). No serpentine soils occur on Project Site.
Dark-eyed gilia	*Gilia millefoliata*	—/—/1B.2	Stabilized coastal dunes	**Low.** Dune habitat does not occur on the Project site.
Choris' popcorn-flower	*Plagiobothrys chorisianus* var. *chorisianus*	—/—/1B.2	Mesic areas in coastal prairie, coastal scrub, and chaparral.	**Moderate.** Potential habitat exists on Icehouse Hill. Recorded from Visitacion Valley historically (1961).
San Francisco campion	*Silene verecunda* ssp. *verecunda*	—/—/1B.2	Sandy soils in valley and foothill grassland, coastal scrub, and chaparral.	**Moderate.** Suitable habitat exists on Icehouse Hill. Occurs on San Bruno Mountain.
Invertebrates				
Western bumble bee	*Bombus occidentalis*	—/SC/—	Found in high elevation meadows, forests, riparian areas in the Sierra Nevada and Cascade Mountain ranges, and in coastal grasslands of northern California. Historical habitat included shrublands, chaparral, gardens, and urban parks from sea level to over 8,000 feet.	**Low.** Suitable flowering nectar plants present on Project site; however, site is highly disturbed as a result of historic fill, grading and development. Last observed at San Bruno Mountain in 1968 with no recent sightings.

Common Name	Scientific Name	Listing Status: Federal/State/ Other	Habitat	Potential to Occur in Project Area
San Bruno elfin butterfly	*Callophrys mossii bayensis*	FE/—/—	Coastal scrub and bunchgrass grassland habitats and rocky outcrops and cliffs, with larval foodplant, *Sedum spathulifolium*; adults nectar on *Lomatium utriculatum*, *Achillea millefolium*, *Arabis blepharophylla*, *Erysimum franciscanum*, *Ranunculus californicus*, and *Fragaria californica*. All known locations are restricted to San Mateo County where several populations are known from San Bruno Mountain, Milagra Ridge, the San Francisco Peninsula Watershed, and Montara Mountain.	**Absent.** May fly over Project site but suitable scrub and bunchgrass habitat is not present.
Monarch butterfly	*Danaus plexippu*s, pop. 1	FC/—/—	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	**Moderate.** No known roost sites at Project site but suitable overwintering (eucalyptus) trees are present.
Bay checkerspot butterfly	*Euphydryas editha bayensis*	FT/—/—	Found in serpentine grasslands. Host plants for the butterfly are *Plantago erecta*, *Castilleja densiflora*, and *C. exserta*.	**Moderate.** *Plantago* host plants identified on Icehouse Hill. Known to be present on San Bruno Mountain.
Mission blue butterfly	*Icaricia icarioides missionensis*	FE/—/—	Inhabits grasslands of the San Francisco Peninsula. Has three larval host plants: *Lupinus albifrons*, *Lupinus variicolor*, and *Lupinus formosus*.	**Low.** Present on San Bruno Mountain, within 0.25 miles of Icehouse Hill. Host plants not identified on Project site.
Callippe silverspot butterfly	*Speyeria callippe callippe*	FE/—/—	Found in native grasslands with *Viola pedunculata* as larval food plant.	**Moderate.** Host plant widespread on Icehouse Hill; species known to occur on San Bruno Mountain.
Myrtle's silverspot	*Speyeria zerene myrtleae*	FE/—/—	Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; extirpated from coastal San Mateo County. Larval food plant thought to be *Viola adunca*.	**Absent.** Project site is out of species' known range.
Fish				
Chinook salmon (winter-run ESU)	*Oncorhynchus tshawytscha*	FE/SE/—	Ocean waters, Sacramento, and San Joaquin Rivers; Migrates from ocean through San Francisco Bay-Delta to freshwater spawning grounds. Aquatic portions of the Action Area are designated as Critical Habitat.	**Low.** Chinook salmon typically enter the Sacramento River from November to June and spawn from late-April to mid-August, with a peak from May to June. They inhabit nearshore coastal waters of Central California throughout the year, but especially during migration periods.
Chinook salmon (spring-run ESU)	*Oncorhynchus tshawytscha*	FT/ST/—	Ocean waters, Sacramento, and San Joaquin Rivers; Migrates from ocean through San Francisco Bay-Delta to freshwater spawning grounds.	**Low.** Chinook salmon typically enter the Sacramento River from November to June and spawn December to April. They inhabit nearshore coastal waters of Central California throughout the year, but especially during migration periods.
Steelhead Trout (Central California Coast Distinct Population Segment)	*Oncorhynchus mykiss*	FT	Requires cold, freshwater streams with suitable gravel for spawning. Rears in rivers and tributaries to the San Francisco Bay. San Francisco Bay is designated as Critical Habitat.	**Moderate.** Limited foraging habitat is present in the Bay in the immediate vicinity of the Project site.

Common Name	Scientific Name	Listing Status: Federal/State/ Other	Habitat	Potential to Occur in Project Area
Steelhead Trout (Central Valley Distinct Population Segment)	*Oncorhynchus mykiss*	FT	Ocean waters, Sacramento, and San Joaquin Rivers; Migrates from ocean through San Francisco Bay-Delta to freshwater spawning grounds. Aquatic portions of the Action Area are designated as Critical Habitat.	**Low.** Limited foraging habitat for this species within the Project site. No streams supporting spawning runs are present within or in the vicinity of the Project site. There is a moderate potential for occurrence during migration between the Sacramento River watershed and the Pacific Ocean.
North American green sturgeon, Southern Distinct Population Segment	*Acipenser medirostris*	FT/—/—	Within the marine environment, the Southern Distinct Population Segment occupies coastal bays and estuaries from Monterey Bay to Puget Sound in Washington. All of San Francisco Bay is designated Critical Habitat for green sturgeon.	**Moderate.** This species migrates from the Pacific Ocean to spawning habitat in the Sacramento River watershed but may forage in Bay waters near the Project site.
Hardhead	*Mylopharodon conocephalus*	—/CSC/—	Found in relatively undisturbed habitats of larger streams with cool, clear water, slow velocities, and containing sand, gravel, and boulder substrates.	**Absent.** Suitable habitat is not present at the Project site. Historical presence documented in Alameda and Coyote Creeks, tributaries of the San Francisco Bay, though current status is unknown.
Longfin smelt	*Spirinchus thaleichthys*	FC/ST/—	Found throughout the nearshore coastal waters and open waters of San Francisco Bay-Delta including the river channels and sloughs of the Delta. Spawns in the Delta.	**Moderate.** This species is documented consistently within open water habitat of Central San Francisco Bay, including the waters adjacent to the Project site.
Pacific herring	*Clupea pallasii*	SMCCF/—/—	San Francisco Bay is a major spawning ground for species. Preferred spawning substrate is eelgrass and algae but will also use pier pilings, riprap, and other rigid, smooth structures within Bay waters.	**Low.** This species spawns in San Francisco Bay and occurs throughout the San Francisco waterfront. However, no suitable habitat occurs in the vicinity of the Project site.
Delta smelt	*Hypomesus transpacificus*	FT/SE/—	Open surface waters in the Sacramento–San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. Found in Delta estuaries with dense aquatic vegetation and low occurrence of predators.	**Absent.** Historically abundant throughout the Bay-Delta, now extremely rare. At present, primarily confined to Suisun Bay and a few tidal channels and flooded islands within Suisun Marsh and the Delta.
Tidewater goby	*Eucyclogobius newberryi*	FE/—/—	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches.	**Absent.** Historically abundant. At present, no population exists in San Francisco Bay.
Reptiles and Amphibians				
Western pond turtle	*Emys marmorata*	—/CSC/—	Aquatic turtle of freshwater ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometers from water for egg-laying.	**Absent.** Tidal aquatic habitat in Brisbane Lagoon and Visitacion Creek is considered limiting for this species. There are also no nearby source populations for turtles to colonize the site. In addition, upland habitat is limited by roads and riprap.

Common Name	Scientific Name	Listing Status: Federal/State/ Other	Habitat	Potential to Occur in Project Area
California red-legged frog	*Rana draytonii*	FT/CSC/—	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. Requires 11–20 weeks of permanent water for larval development. Must have access to aestivation habitat.	**Absent.** No suitable habitat present. Nearest occurrence located approximately 6 miles from the Project site in Golden Gate Park, San Francisco County.
San Francisco garter snake	*Thamnophis sirtalis tetrataenia*	FE/SE/FP	Densely vegetated ponds and wetlands near open hillsides with small mammal burrows.	**Absent.** No suitable freshwater wetland habitat present. Species is extremely rare and exists in scattered populations on the San Francisco Peninsula.
California tiger salamander	*Ambystoma californiense*	—/ST/—	Lives in underground refuges, especially ground squirrel burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Requires vernal pools or other seasonal water sources for breeding.	**Absent.** Project site is out of species' known range.
Birds				
Burrowing owl	*Athene cunicularia*	—/CSC	Found in short grasslands with gentle slopes, such as pastures, fallow fields, and vacant lots with adequate small mammal burrows.	**Low.** Suitable open grasslands with short vegetation are scarce in the Project site, and human disturbance is widespread.
Marbled murrelet	*Brachyramphus marmoratus*	FT/SE/—	Feeds near shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to 6 miles inland, often in Douglas fir.	**Absent.** Suitable habitat is not present at the Project site.
Western snowy plover	*Charadrius nivosus nivosus*	FT/—/—	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly, or friable soils for nesting.	**Absent.** Suitable habitat is not present at the Project site
Saltmarsh common yellowthroat	*Geothlypis trichas sinuosa*	—/CSC/—	Resident of the San Francisco Bay region, in fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**Low.** Known breeding range in coastal areas of San Francisco, but tidal marsh habitat at the Project site is sparse and insufficiently dense to suit this species.
California black rail	*Laterallus jamaicensis coturniculus*	—/ST/FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	**Low.** Freshwater and brackish marsh habitat is sparse and fragmented within the Project site and species is rare in San Francisco Bay.
Alameda song sparrow	*Melospiza melodia pusillula*	—/CSC/—	Resident of salt marshes bordering south arm of San Francisco Bay. Inhabits *Salicornia* marshes; nests low in *Grindelia* bushes (high enough to escape high tides) and in *Salicornia*.	**Moderate.** Suitable foraging and nesting habitat are present along Visitacion Creek and areas of the Lagoon.
Short-tailed albatross	*Phoebastria (Diomedea) albatrus*	FE/CSC/—	Pelagic seabird that typically nests on remote islands in the Pacific Ocean. An individual was observed off the San Francisco coast in 2009.	**Absent.** Not expected near the Project site.

Common Name	Scientific Name	Listing Status: Federal/State/ Other	Habitat	Potential to Occur in Project Area
California Ridgway's rail	*Rallus obsoletus*	FE/CE/—	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed but feeds away from cover on invertebrates from mud-bottomed sloughs.	**Low.** Protocol surveys at the site were negative (Edelstein, 2020). Tidal marsh habitat at the site is limited and highly disturbed and not expected to support this species. Nearest documented occurrence of this species is 8.5 miles to the south in Redwood City.
Bank swallow	*Riparia riparia*	—/ST/—	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**Absent.** Suitable habitat is not present at Project site.
California least tern	*Sterna antillarum browni*	FE/SE/FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	**Absent.** No nesting habitat available at the Project site, which is highly disturbed. The nearest nesting colony occurs in Alameda.
Northern spotted owl	*Strix occidentalis caurina*	FT/ST/—	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris, and space under canopy.	**Absent.** Suitable habitat is not present at Project site.
Mammals				
Townsend's big-eared bat	*Corynorhinus townsendii*	—/CSC/WBWG – H	Throughout California in a wide variety of habitats. Most common to mesic sites. Roosts in caves and in the open, hanging from walls and ceilings. Very sensitive to human disturbance.	**Low.** Project site has potential roosting habitat in disused structures; suitable foraging habitat is present overwater, but species is highly sensitive to disturbance.
Hoary bat	*Lasiurus cinereus*	—/—/WBWG-M	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths.	**Moderate.** Suitable open habitat with access to trees and habitat edges is provided at the Project site.
Salt marsh harvest mouse	*Reithrodontomys raviventris*	FE/SE/FP	Only found in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow; builds loosely organized nests. Requires higher areas for flood escape.	**Absent.** Tidal marsh habitat at Project site is limited and fragmented. Nearest occurrence of this species is approximately 8.5 miles south of the Project site in Redwood City.

Common Name	Scientific Name	Listing Status: Federal/State/ Other	Habitat	Potential to Occur in Project Area
Marine Mammals				
California sea lion	*Zalophus californianus*	P/—/—	California sea lions reside in the Eastern North Pacific Ocean in shallow coastal and estuarine waters.	**Low.** California sea lions occur within the Bay-Delta while migrating to and from their primary breeding areas on the Farallon and California Channel Islands, and when high numbers of Pacific herring and salmon inhabit Bay-Delta waters. No breeding, pupping, or haul-out sites occur within the Project Site. However, a single individual was observed in the lagoon in 2020 (Biohabitats 2023a).
Harbor seal	*Phoca vitulina richardsii*	P/—/—	Near-shore Pacific species with up to 500 haul-out sites for the harbor seal distributed along their Pacific coast range.	**Low.** The harbor seal is a permanent resident in San Francisco Bay. Harbor seals have established haul out sites at Castro Rocks in San Pablo Bay, Yerba Buena Island in the Central Bay, and Mowry Slough in the South Bay.
Harbor porpoise	*Phocoena phocoena*	P/—/—	Near-shore species that inhabits northern temperate and subarctic coastal and offshore waters. In the North Pacific, they are found from Japan north to the Chukchi Sea and from Monterey Bay, CA, to the Beaufort Sea. They are most often observed in Bays, estuaries, harbors, and fjords less than 650 feet (200 meters) deep, like the San Francisco Bay-Delta.	**Absent.** Common in the vicinity of the Golden Gate Bridge and Richardson's Bay, rare south of the Bay Bridge and not expected in Visitacion Creek or Brisbane Lagoon.
Bottlenose dolphin	*Tursiops truncatus*	P/—/—	The California coastal stock of bottlenose dolphin is relatively small. They spend most of the time in nearshore waters and thus can be frequently seen. Bottlenose dolphins are most often observed just east of the Golden Gate Bridge and within the Golden Gate; their presence may depend on the tides.	**Absent.** Common in the vicinity of the Golden Gate Bridge and Richardson's Bay, rare south of the Bay Bridge and not expected in Visitacion Creek or Brisbane Lagoon.
Gray whale	*Eschrichtus robustus*	P/—/—	Occurs in coastal California waters during late fall-winter southward migration and again late winter to early summer during their northward migration.	**Absent.** Seasonally present within San Francisco Bay during migration periods. This species could not pass through culverts into site waters.
Humpback whale	*Megaptera noveangli*	FE/—/—	The central California population of humpback whales migrates from their winter calving and mating areas off Mexico to their summer and fall feeding areas off coastal California. Humpback whales occur in San Francisco Bay from late April to November.	**Absent.** Seasonally present within San Francisco Bay between April and July. This species could not pass through culverts into site waters.

Potential for Species Occurrence Rankings:

Absent – Historically present, but species is either extirpated or not been documented to be present.
Low – Suitable foraging or spawning habitat is present, but the species has either not been documented to be present or the site is out of range. Species with 'Low' potential are generally not expected on or near the site.
Moderate – Suitable foraging or spawning habitat is present and the species has been documented to be present for part of the year.
High – Suitable foraging or spawning habitat is present and the species has been documented to be present throughout the year and/or in substantial numbers.

Common Name	Scientific Name	Listing Status: Federal/State/ Other	Habitat	Potential to Occur in Project Area

STATUS CODES:

Federal: National Oceanographic and Atmospheric Administration (NOAA); Marine Mammal Protection Act

P = Federally Protected

Western Bat Working Group:

WBWG-H = High priority; Species that are imperiled or at a high risk of imperilment.

WBWG-M = Medium priority; Species that warrant a closer evaluation due to potential imperilment.

CNPS

1B.1 Plants rare, threatened, or endangered in California and elsewhere

Federal: National Marine Fisheries Service (NMFS); United States Fish and Wildlife Service (USFWS); FESA

FE = Listed as “endangered” (in danger of extinction) under FESA
FT = Listed as “threatened” (likely to become Endangered within the foreseeable future) under FESA
FC = Candidate for Federal Listing
SMCCF = State-Managed California Commercial Fishery

State: California Department of Fish and Wildlife (CDFW); CESA

SE = Listed as “endangered” under CESA
ST = Listed as “threatened” under CESA
SC = Candidate for State listing
CSC = California Species of Special Concern
FP = Fully Protected

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CHAPTER 3
Regulatory Context

This section identifies applicable federal, state, regional, and local plans, policies, and regulations that apply to construction and/or operation of the proposed Baylands Specific Plan.

Federal

Endangered Species Act of 1973, as Amended (16 U.S.C. §§1531–1543)

The federal Endangered Species Act (FESA) of 1973 (FESA) and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. In addition, the FESA defines species as threatened or endangered and provides regulatory protection for listed species. The FESA also provides a program for the conservation and recovery of threatened and endangered species as well as the conservation of designated critical habitat that USFWS determines is required for the survival and recovery of these listed species. Section 9 lists those actions that are prohibited under the FESA. The definition of "take" includes to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Although unauthorized take of a listed species is prohibited, take may be allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of "harm" includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. "Harass" is defined as actions that create the likelihood of injury to listed species by disrupting normal behavioral patterns related to breeding, feeding, and shelter significantly. Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit.

Migratory Bird Treaty Act (16 U.S.C. §§703–711)

The MBTA is the domestic law that affirms and implements a commitment by the U.S. to four international conventions (with Canada, Mexico, Japan, and Russia) for the protection of a shared migratory bird resource. Unless and except as permitted by regulations, the MBTA makes it unlawful at any time, by any means, or in any manner to intentionally pursue, hunt, take, capture, or kill any species native to the United States or its territories, which are those that occur as a result of natural biological or ecological processes, including the disturbance and removal of nests or their eggs during the breeding season, whether intentional or incidental. The MBTA does not include non-native species whose occurrences in the United States are solely the result of intentional or unintentional human-assisted introduced.

Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. §668)

The federal Bald and Golden Eagle Protection Act protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this act. Take of bald and golden eagles includes to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" (16 U.S.C. §668c). "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior (72 Fed. Reg. 31132; 50 CFR §22.3).

Clean Water Act Section 404

The U.S. Army Corps of Engineers (USACE, or Corps) administers Clean Water Act (CWA) Section 404. Section 404 regulates activities in wetlands and "other waters of the United States." Wetlands are a subset of "waters of the United States" that are defined in the CFR (33 CFR 328.3(a); 40 CFR 230.3(s)) as:

1. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide.
2. All interstate waters including interstate wetlands. (Wetlands are defined by the federal government [33 CFR 328.3(b), 1991] as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances support, a prevalence of vegetation typically adapted for life in saturated soil conditions).
3. All other waters—such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds—the use, degradation, or destruction of which could affect interstate or foreign commerce. This includes any waters with the following current or potential uses:
   - That are or could be used by interstate or foreign travelers for recreational or other purposes;
   - From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
   - That are used or could be used for industrial purposes by industries in interstate commerce.
4. All impoundments of waters otherwise defined as waters of the United States under the definition.
5. Tributaries of waters identified in paragraphs (1) through (4).
6. Territorial seas.
7. Wetlands next to waters identified in paragraphs (1) through (6).

8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding the Clean Water Act jurisdiction remains with the U. S. Environmental Protection Agency (328.3(a)(8) added 58 CFR 45035, August 25, 1993).

Impacts to wetland and non-wetland waters under the jurisdiction of USACE require a permit from USACE.

State

California Endangered Species Act (Fish and Game Code §2050 et seq.)

CESA establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that would affect a listed species under both the CESA and the FESA, compliance with the FESA would satisfy the CESA if CDFW determines that the federal incidental take authorization is "consistent" with the CESA under Fish and Game Code Section 2080.1. Before a project results in the take of a species listed under the CESA, a take permit must be issued under Section 2081(b).

Fish and Game Code §§2080 and 2081

Section 2080 of the Fish and Game Code states, "No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the [State Fish and Game] Commission determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act." Pursuant to Section 2081, CDFW may authorize individuals or public agencies to import, export, take, or possess state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or Memoranda of Understanding, if the take is incidental to an otherwise lawful activity, impacts of the authorized take are minimized and fully mitigated, the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and the project operator ensures adequate funding to implement the measures required by CDFW. CDFW makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

Fish and Game Code §§3503, 3503.5, and 3513

Under these sections of the Fish and Game Code, a project operator is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds of prey; the taking or possessing of any migratory nongame bird; the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or nongame birds; or the taking of any nongame bird pursuant to Fish and Game Code Section 3800, whether intentional or incidental.

Fish and Game Code §§1600–1616

California Fish and Game Code Sections 1600–1616 describe habitats potentially under the regulatory jurisdiction of CDFW. The Fish and Game Code section 1602 requires an entity to notify CDFW prior to commencing any activity that may (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or (3) deposit debris, waste or other materials that could pass into any river, stream or lake (CDFW 2018). A Lake and Streambed Alteration Agreement (LSAA) covers activities that would result in the modification of the bed, bank, or channel of a stream, river, or lake, including water diversion and damming and removal of vegetation from the floodplain to the landward extent of the riparian zone (the top-of-bank). It governs both activities that modify the physical characteristics of the stream and activities that may affect fish and wildlife resources that use the stream and surrounding habitat (i.e., the riparian vegetation or wetlands). A Section 1602 LSAA will often require mitigation, such as revegetation or replanting of riparian trees or other compensatory mitigation. For impacts to these resources.

Native Plant Protection Act (Fish and Game Code §§1900–1913)

California's Native Plant Protection Act (NPPA) requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the NPPA prohibit the taking of endangered or rare plants from the wild and require notification of CDFW at least 10 days in advance of any change in land use in areas that support listed plants.

Vascular plants that are identified as "rare" by CDFW, but that may have no designated status or protection under federal or state endangered species legislation, are protected under Fish and Code, section 1900 et seq. Additionally, plants identified as California Rare Plant Rank (CRPR) 1A, 1B, or 2 meet the definition of Section 1901, Chapter 10 (NPPA) and Sections 2062 and 2067 (CESA) of the California Fish and Game Code. California rare plant ranks are defined as follows:

- **Rank 1A:** Plants Presumed Extinct.
- **Rank 1B:** Plants Rare, Threatened, or Endangered in California and elsewhere.
- **Rank 2:** Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere.
- **Rank 3:** Plants about Which More Information is Needed – A Review List.
- **Rank 4:** Plants of Limited Distribution – A Watch List.

Porter Cologne Water Quality Act

The State Water Resources Control Board (SWRCB), through its nine Regional Water Quality Control Boards (RWQCB), regulates waters of the state through the California Clean Water Act (i.e., Porter-Cologne Act). RWQCB also administers permits for discharges into waterways under the Clean Water Act Section 401 Water Quality Certification and Wetlands Program.

If USACE determines that wetlands or other non-wetland waters are isolated waters and not subject to regulation under the federal CWA, RWQCB may choose to exert jurisdiction over these waters under the Porter-Cologne Act as waters of the state.

CEQA Guidelines Section 15380

In addition to the protections provided by specific federal and state statutes, CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species nonetheless may be considered rare or endangered for purposes of CEQA if the species can be shown to meet certain specified criteria:

(A) Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or

(B) The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in FESA.

In general, plants tracked by the CNDDB as CRPR 1 or 2 meet the criteria of CEQA Guidelines Section 15380 and effects to these species are considered "significant." CRPR 3 and 4 plant taxa do not usually meet CEQA standards and thresholds for impact considerations, but some species still may warrant protection under Section 15380(b) based on declining trends, recent taxonomic information, or other factors. CRPR 3 and 4 species were included in the analysis of potential impacts to rare plants.

Local

City of Brisbane Municipal Code Chapter 12.12, Private Tree Regulations

The City of Brisbane Private Tree Regulations Ordinance applies to removing or severely trimming trees on private property or within the public right-of-way. Seven days prior to tree work, the city must be notified. Removal of protected trees (defined as California bay, coast live oak, California buckeye, or three or more mature trees of non-invasive species) requires a discretionary tree removal permit. The permit requires planting replacements trees on at least a 1:1 basis, with species and location to be approved. Exceptions may include in-lieu payment or off-site planting.

San Bruno Mountain Habitat Conservation Plan

Published in 1982, the SBMHCP was the first HCP in the nation. It developed management and monitoring plans for Mission blue, Callippe silverspot, San Bruno elfin, and Bay checkerspot butterfly habitat conservation, as well as the ecosystem of San Bruno Mountain as a whole. Core butterfly habitat in the plan area comprises approximately 1,290 acres, and management focuses on integrating recreational use with conservation, specifically controlling weed infestations and scrub encroachment.

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CHAPTER 4
Project Thresholds and Analysis Methodology

Project Thresholds

The following Project-specific thresholds provide the analytical "bright-line" against which potential environmental effects would be considered significant or less than significant following the implementation of applicable measures, as required, and/or compliance with existing local, State, and federal laws and regulations.

Threshold BIO-1: The Baylands Specific Plan would cause a significant impact if:

- Any candidate, sensitive, or special-status plant or animal would be killed, removed, or harmed;
- Habitat for any special-status plant or animal would be directly removed; or
- Special-status species would be indirectly degraded because of increased human encroachment, off-leash pets, debris and litter, or nighttime lighting that would cause a decrease in habitat area or quality.

Threshold BIO-2: The Baylands Specific Plan would cause a significant impact if it would result in the net loss of wetland and non-wetland waters acreage, functions, and values as compared to existing wetland and non-wetland waters acreage, functions, and values by habitat type; or associated impacts to regulated sensitive natural communities.

Threshold BIO-3: The Baylands Specific Plan would cause a significant impact if it would substantially inhibit the movement of any native resident or migratory fish or wildlife species.

Threshold BIO-4: The Baylands Specific Plan would cause a significant impact if it would conflict with Brisbane Municipal Code Chapter 12.12, Private Tree Regulations or other local ordinances protecting biological resources.

Threshold BIO-5: The Baylands Specific Plan would cause a significant impact if it would conflict with the provisions of the San Bruno Mountain Habitat Conservation Plan.

Analysis Methodology

ESA prepared this Biological Resources Technical Report to support the Baylands Specific Plan Environmental Impact Report (2023 Baylands Specific Plan EIR). This Biological Resources Technical Report evaluates the potential for development of the Baylands Specific Plan to result in significant effects on biological resources, including impacts to special-status species; sensitive natural communities, such as waters of the United States, including wetlands and non-wetland waters; wildlife movement corridors; protected trees (i.e., protected under the City of Brisbane Tree Regulation Ordinance); and habitat conservation plans (i.e., the nearby San Bruno Mountain Habitat Conservation Plan).

Environmental baseline conditions were documented in the city's 2018 Brisbane Baylands Final Program EIR and a subsequent habitat assessment (Metis 2023) and are collectively used in this Biological Resources Technical Report, as applicable, to support this analysis. Other surveys were conducted by Biohabitats between 2020 and 2022, which ESA also reviewed, independently verified, and used, including habitat assessments, biological resource plans, and a USACE-approved wetland delineation for the property (Biohabitats 2023a, 2023b, 2023c, 2023d, 2023e, 2023f, 2023g).

To determine current baseline conditions within the Plan area, and in advance of site reconnaissance surveys, ESA completed 2023 database searches of the California Natural Diversity Database (CNDDB), the CNPS Electronic Inventory, and the U.S. Fish and Wildlife Service (USFWS) species list to inform the likelihood of special-status species presence (CDFW 2024; CNPS 2024; USFWS 2024); and reviewed aerial photographs of the Plan area. Results of the database searches are provided in Appendix A, *Database Search Records*, of this report.

In September 2022 and February 2023, ESA conducted site reconnaissance surveys to assess the potential for the Baylands Specific Plan site to support and/or impact special-status species; sensitive natural communities, such as waters of the United States, including wetlands and non-wetland waters; wildlife movement corridors; protected trees; and habitat conservation plans. Furthermore, ESA contracted with Coast Ridge Ecology, LLC (Coast Ridge), to complete an assessment of Callippe silverspot, Mission blue, Bay checkerspot, and San Bruno elfin butterfly habitat at Icehouse Hill. This effort included four surveys conducted in April and June of 2023 to identify habitat types, butterfly host plants, butterfly nectar plants, and invasive species. Coast Ridge's report, titled *Butterfly Habitat Mapping and Restoration Opportunities at Icehouse Hill, Brisbane Baylands, Brisbane, CA*, is provided as Appendix B to this report.

CHAPTER 5
Impact Assessment

The following impact assessment evaluates each threshold provided in Chapter 4, *Project Thresholds and Analysis Methodology*, and determines whether physical environmental changes would result in a less than significant or significant impact associated with implementation of the Baylands Specific Plan.

Threshold 1: Special-Status Species

The Baylands Specific Plan would cause a significant impact if:

- Any candidate, sensitive, or special-status plant or animal would be killed, removed, or harmed;
- Habitat for any special-status plant or animal would be directly removed; or
- A special status habitat would be indirectly degraded because of increased human encroachment, off-leash pets, debris and litter, or nighttime lighting that cause a decrease in habitat area or quality.

The following discussion addresses those species with a potential to occur within the Project Site, as identified in Table 2) that could be affected during construction or operational activities.

Construction-Related Impacts

Construction-related impacts would be associated with grading activities, including direct impacts as a result of ground disturbance and/or indirect impacts as a result of construction-related noise, dust, or air emissions; or vertical construction (i.e., construction of buildings and structures).

Special-Status Plants

As a result of historical land uses including as a former railyard and landfill and the related absence of native substrate across the Project stie, rare plants would only be expected in annual grasslands and coastal scrub habitats on Icehouse Hill on the western edge of the site. Focused, in-season rare plant surveys have not yet been performed in this area where recreational trails are proposed; however, their presence cannot be ruled out. The Icehouse Hill area provides potential habitat for at least four non-listed special-status plants, including bent-flowered fiddleneck (*Amsinckia lunaris*; CRPR 1B.2),[3] San Francisco collinsia (*Collinsia multicolor*; CRPR 1B),

[3] Plants of CRPR 1B generally meet the California Environmental Quality Act (CEQA) Section 15380 definitions of rare or endangered and are recognized as moderately threatened in California.

Choris' popcorn flower (*Plagiobothrys chorisianus* var. *chorisianus*; CRPR 1B.2), and San Francisco campion (*Silene verecunda* ssp. *verecunda*; CRPR 1B.2). No threatened or endangered plant species are expected to occur on the site.

In-seasonal botanical surveys remain to be completed on Icehouse Hill and would be performed in advance of trail planning in this area. If present, rare plants could be impacted during the construction of recreational trails on Icehouse Hill.

Invertebrates

Western bumble bee (*Bombus occidentalis*). The western bumble bee is a state candidate for listing as endangered. Based on the scarcity of the western bumble bee in the regional area, age of regional sightings (most are more than 60 to 70 years old), and absence of sightings in the local Project area; combined the site history of fill, grading and development, this species is considered unlikely on the Project site. This species was last observed locally at San Bruno Mountain in 1968 with no recent sightings. As such, no direct or indirect effects are anticipated to this species.

Monarch Butterfly (*Danaus plexippus*). Overwintering populations of the monarch butterfly in California are recognized as a federal candidate for listing. While eucalyptus trees can generally provide potential monarch overwintering sites, overwintering behavior has not been observed on or near eucalyptus trees on the Project site (CDFW 2024). No direct or indirect effects are anticipated to this species.

Federally Listed Butterfly Species. Icehouse Hill is the only area within the Project site with habitat potential for listed butterfly species. Butterfly surveys conducted in 2020 on Icehouse Hill produced negative results for the Mission blue butterfly, the San Bruno elfin butterfly, Bay checkerspot butterfly, and the Callippe silverspot butterfly during surveys occurring in April, June, and July (Biohabitats 2023c). In addition, on behalf of ESA, Coast Ridge Ecology conducted butterfly surveys occurring in April and June of 2023 on Icehouse Hill, which also produced negative results for these four species. The endangered Callippe silverspot butterfly larval host species Johnny jump-up (*Viola pedunculata*) was widely observed during the 2023 field surveys (ESA 2023). In addition, the 2023 field surveys identified one patch of California plantain (*Plantago erecta*), the preferred host plant for the Bay checkerspot butterfly, and the purple owl's clover (*Castilleja densiflora* or *Castilleja exserta*) and English plantain (*Plantago lanceolata*), both alternate host plants for the Bay checkerspot butterfly, on the Project site. However, no butterflies of these species were seen (Coast Ridge 2023). Host plants for the Mission blue butterfly and San Bruno elfin butterfly were not identified.

Various nectar plants for the listed butterfly species are also present on the Project site. Host plants provide habitat for egg laying and larval development, while nectar resources support adult butterflies during breeding and migration. Collectively, host plants and nectar plants represent butterfly habitat.

The nearby San Bruno Mountain has an operating Habitat Conservation Plan (i.e., SBMHCP) and is considered a potential source population for the four listed butterfly species (San Mateo County 2008).

San Bruno elfin butterfly (*Callophrys mossii bayensis*). The San Bruno elfin butterfly is a small brownish butterfly with a 1-inch wingspan that is known to occur on San Bruno Mountain. The host plant is the succulent stonecrop (*Sedum spathulifolium*), which grows between 900 and 1,075 feet in elevation on the fog-belt at the higher areas of the main ridge of San Bruno Mountain. In contrast, the maximum elevation of Icehouse Hill is approximately 250 feet. Due to the altitude of Icehouse Hill and the absence of suitable butterfly habitat, the San Bruno elfin is not expected to be present on Icehouse Hill or other portions of the Project site (San Mateo County 2008). No impact would occur.

Bay checkerspot butterfly (*Euphydryas editha bayensis*). The Bay checkerspot is a medium-sized butterfly with a wingspan of 2 inches with black bands along wing veins that contrast with red, yellow, and white spots. The preferred larvae host plant is California plantain (*Plantago erecta*), with larvae using purple owl's clover (*Castilleja densiflora* or *Castilleja exserta*) and English plantain (*Plantago lanceolata*) as secondary host plants. Eggs are laid at the base of the host plants. After 10 days, the caterpillars hatch and grow for two weeks, then enter into diapause during the summer. With the first rains, the caterpillars become active and produce a chrysalis, entering the pupa stage. The adults emerge and fly between late February to early May. Males emerge 4 to 8 days before the females and live approximately 10 days. The Bay checkerspot formerly occurred along the spine of the San Francisco Peninsula, from Twin Peaks to southern Santa Clara County in serpentine grassland.

This species was extirpated from San Bruno Mountain in the 1980s; however, the species was reintroduced to San Bruno Mountain beginning in 2017. Since then, several thousand Bay checkerspot larvae have been translocated to San Bruno Mountain from Coyote Ridge in Santa Clara County by Creekside Science biologists (San Mateo County Parks Department 2022). In 2021, there was estimated to be over 6,000 post-diapause Bay checkerspot larvae on the mountain, and the larvae have been observed feeding on native host plants in this location (Coast Ridge 2023).

Small numbers of *Plantago* host plants are present in one small patch at the southeastern corner of Icehouse Hill, although no butterflies were observed during the 2023 field surveys (Coast Ridge 2023). Although host plants for the species were detected at Icehouse Hill, the distance between Icehouse Hill and the areas where the species is present on San Bruno Mountain (over 1 mile) may discourage its establishment on Icehouse Hill due to its propensity to remain within a single habitat patch (i.e., San Bruno Mountain). However, despite the species' propensity to remain within a single habitat patch, several authors have documented long-distance dispersal. Harrison (1989) documented movements of up to 3.5 miles by one individual, and other authors have reported movements of up to 5 miles (USFWS 1998). Therefore, it is possible that this species could occupy restored habitat at Icehouse Hill in the future. With respect to Project-related impacts, a less-than-significant impact would occur because only one small patch of host plants for this species are present on Icehouse Hill, and, further, this species was not observed during butterfly surveys conducted in 2020 and 2023.

Mission blue butterfly (*Icaricia icarioides missionensis*). The Mission blue butterfly is a small, delicate blue and lavender butterfly with wingspan of 1 to 1.5 inches. The Mission blue butterfly is restricted to grassland areas in which the preferred host species grow, including silver lupine

(*Lupine albifrons*) and summer lupine (*Lupine formosus*). Varied lupine (*Lupine variicolor*) can host only when it is associated with the previous two preferred host species. These species are present on the northeast ridge of San Bruno Mountain. The dispersal range of the Mission blue butterfly is approximately 0.25 square miles between habitat patches (Coast Ridge 2023).

Mission blue butterflies emerge from their pupae (cocoons) from early March through early July at the blooming of the nectar source flowers and fly for 6 to 10 days. Female butterflies lay eggs on the young growth of leaves of the host plants. After 4 to 7 days, the eggs hatch into larvae (caterpillars), feeding on the leaves. The caterpillars will grow for about three weeks, until they reach diapause (similar to hibernation), remaining dormant at the base of the host plant. When dormancy ends, the caterpillars molt and the larvae will form a pupa, from which it metamorphoses for 10 days into butterfly form.

Host lupines prefer sites with a moderate degree of disturbance such as trails, roads, and gopher mounds. Nutrient-poor soils, including rocky outcrops, are also preferred. Leeward areas with wind protection are important habitat components. This habitat is currently present and protected at San Bruno Mountain (San Mateo County 2008). As reported by Coast Ridge (2023), in 2021, 180 Mission blue butterflies were recorded during transect surveys on San Bruno Mountain (San Mateo County Parks Department 2022). Although Icehouse Hill is separated from San Bruno Mountain by roads and commercial development, the distance between Icehouse Hill and San Bruno Mountain is within the 0.25-mile dispersal range of the Mission blue butterfly (Thomas Reid Associates 1982). The species is likely to move further during multiple movements between habitat areas. Habitat for the Mission blue butterfly in some of the surrounding SBMHCP management areas, such as the Carter/Martin management area, have lost substantial amounts of Mission blue butterfly habitat due to invasive weed infestations and brush succession over the past several decades (San Mateo County Parks Department 2008).

None of the Mission blue butterfly larval host plants (*Lupinus albifrons*, *L. variicolor*, and *L. formosus*) were detected during surveys of the Project site; hence, this species is not expected to occur on Icehouse Hill or other portions of the Project site under existing conditions. However, as with the Bay checkerspot butterfly, because Icehouse Hill is within the dispersal range for this species, it is possible that this species could occupy restored habitat at Icehouse Hill in the future. With respect to Project-related impacts, a less-than-significant impact would occur because suitable butterfly habitat for this species is not present and, further, this species was not observed during butterfly surveys conducted in 2020 and 2023.

Callippe silverspot butterfly (*Speyeria callippe callippe*). The Callippe silverspot butterfly is larger in comparison to the Mission Blue or San Bruno elfin butterflies, with 2.5 inches of wingspan and an orange-brown pattern in both sides of its wings. Caterpillars are dark-colored, with sharp spines on their backs. The Johnny jump-up (*Viola pedunculata*, also referred to as a viola in this report) is the only host plant used by the Callippe silverspot to oviposit and feed in their larva stages. This host plant is present in large numbers on Icehouse Hill (Coast Ridge 2023) and is also present at the adjacent San Bruno Mountain. The viola is found in mesic to dry open grasslands on both north and south-facing slopes. It can grow on disturbed road cuts, gopher

mounds, under partial shade, and in transition areas between grasslands and scrub. Callippe silverspot butterflies are strong flyers and will venture 0.75 miles or more (USFWS 1997).

Female Callippe silverspots lay eggs on or near the desiccated plant after flowering has ended. After a week, the larvae emerge from the egg, take shelter in ground litter, and enter diapause until late winter when the caterpillar will awaken to feed on the viola's new growth. The pupal stage lasts for two weeks. After the emergence of adults, the butterfly period ranges from 46 to 95 days from mid-May to mid-July (USFWS 1997). As reported by Coast Ridge (2023), the distance between Icehouse Hill and the easternmost point of the SBMHCP (the Carter-Martin management unit), which supports an extensive population of Callippe silverspot butterflies, is 0.23 miles. In 2022, San Mateo County Parks reported 266 Callippe silverspots seen during their biannual transect surveys (San Mateo County Parks Department 2022). Although Icehouse Hill is separated from San Bruno Mountain by roads and commercial development, the distance between Icehouse Hill and San Bruno Mountain is well within the 0.75-mile flight range of the Callippe silverspot (between habitat patches) (Thomas Reid Associates 1982). Habitat for the Callippe silverspot in some of the surrounding management areas of the SBMHCP area, such as the Carter/Martin management area, have lost substantial amounts of Callippe silverspot habitat due to invasive weed infestations and brush succession over the past several decades (San Mateo County Parks Department 2008).

Habitat fragmentation has reduced the distribution of Callippe silverspot butterfly habitat and places genetic and demographic constraints on populations that threaten their persistence. This butterfly species has a high habitat specificity and short reproductive season, with one generation per year. Butterfly reproduction further depends on temperature, precipitation, and wind speed, indicating the importance of microclimate for their viability. Localized extinction can be common, and the establishment of a higher-scale network with connections among habitat patches is important for metapopulation success.

While no butterfly species were observed in either the 2023 or 2020 surveys, Icehouse Hill offers a possible connection between San Bruno Mountain and existing Callippe silverspot butterfly habitat patches within Icehouse Hill. Because Icehouse Hill is within the dispersal range for the Callippe silverspot butterfly and there are known populations of this species within the San Bruno Mountain ecosystem, the introduction of restored and enhanced habitat for this species on Icehouse Hill (as required by Program EIR Mitigation Measure BIO-4c-1c) would allow for potential population expansion for these endangered butterfly species.

While no residential or commercial development would occur on Icehouse Hill, recreational trails and facilities would be constructed as part of the Baylands Specific Plan, as conceptually illustrated by Figure 5.3.37 of the Open Space and Conservation Plan of the Specific Plan. These trails and facilities have the potential to impact existing Callippe silverspot butterfly or Bay checkerspot butterfly host plants, which are located within existing grassland habitats. Further, even with negative survey results, because Icehouse Hill is within the known flight range for the Callippe silverspot butterfly from existing habitat in San Bruno Mountain, there may be Callippe silverspot larvae or pupae present in the leaf litter of the host plants. Because the design for the Icehouse Hill Open Space contained in the Baylands Specific Plan is illustrative, it is possible that the final design could result in the removal of butterfly host or nectar plants as the result of trail

and recreational improvements, invasive species removal and management, or habitat restoration and management activities.

Figure 5 identifies the existing locations of butterfly host plants, and **Figure 6** identifies suitable habitat for the reintroduction of host plants and, therefore, should be avoided with respect to the installation of trails or other construction/ maintenance activities, other than the removal of non-native vegetation species, which could allow for the reintroduction of larval host plants. As an example, the currently proposed Trail 6 (Overlook) shown by Specific Plan Figure 5.3.37 (Illustrative Concept – Icehouse Hill) should be removed or re-routed to avoid potential impacts to the Johnny jump-up (*Viola pedunculata)* plant, which is the host plant for the Callippe silverspot butterfly. However, this is a singular example that could result in a potentially significant impact based on the current Illustrative Plan for Icehouse Hill provided in the Baylands Specific Plan.

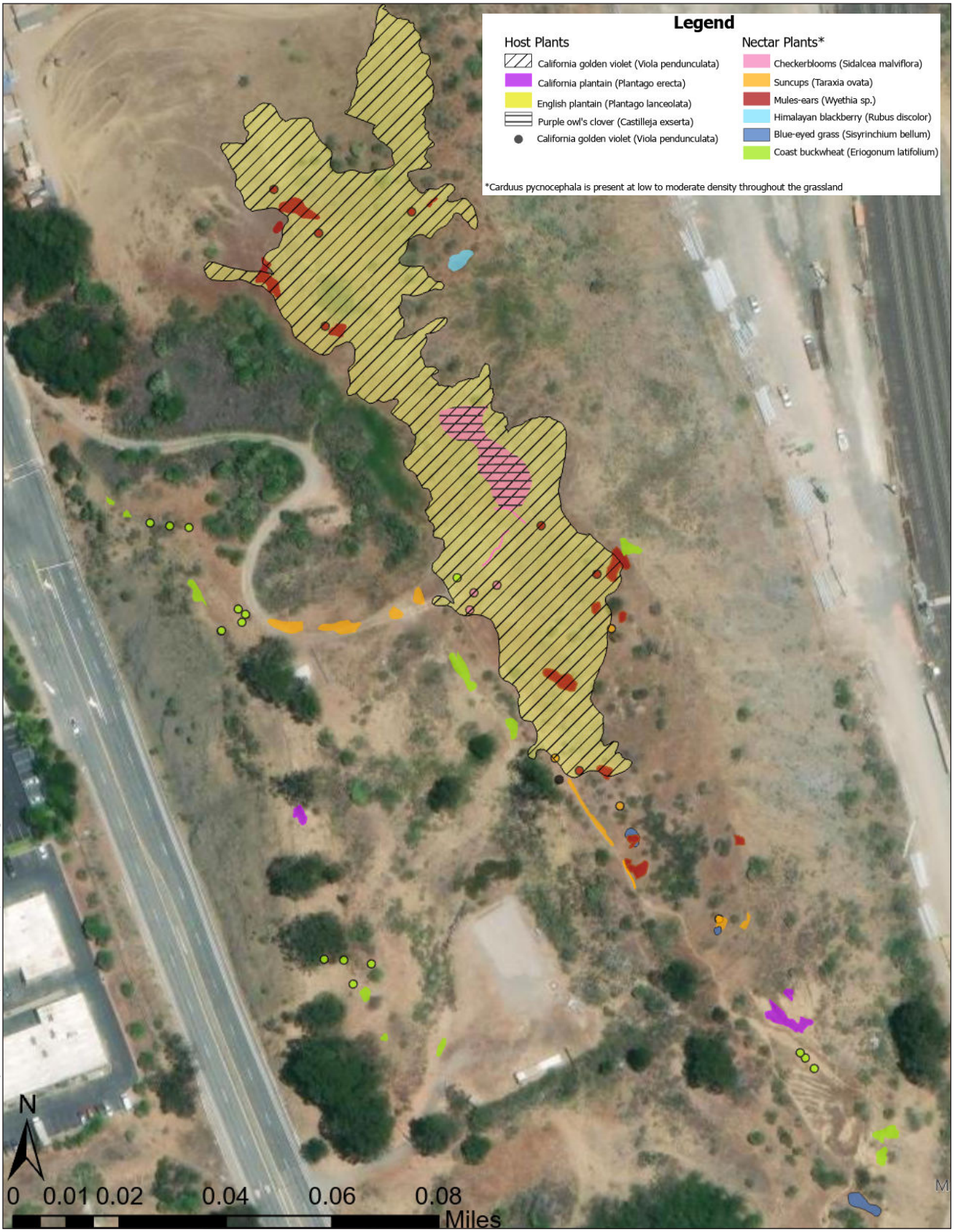
Icehouse Hill has been grazed by between 8 and 13 horses since 1996 on both the top of Icehouse Hill and along the northern flanks. For the most part, the southern, eastern, and western portions of Icehouse Hill are too steep for horse grazing. As shown by Figure 5, Icehouse Hill currently supports a large patch of the host plant for the Callippe silverspot butterfly (*Viola pedunculata*), and the presence of such a large patch is likely due to consistent grazing, which prevents the host plant from being overtaken by weedy nonnative grasses and forbs that proliferate in the absence of grazing; however, while grazing may benefit the host plant for the Callippe silverspot butterfly, it is also possible that the current level of grazing could reduce survival rates of the Callippe silverspot due to trampling of the pupae and larvae in the duff below the plants. Similarly, potential nectar plants may be overgrazed, resulting in few available nectar sources for Callippe silverspot during the flight season.

Fish

Aquatic and marsh habitat at Brisbane Lagoon would be removed by improvements made to the shoreline as part of the Project, including grading and shoreline restoration and recreational amenities. Installation of shoreline features, as described in the Baylands Specific Plan (Baylands Development 2023), may result in the loss of aquatic nearshore habitat and increases in turbidity in Lagoon water.

A reconnaissance survey of marine species in Brisbane Lagoon and Visitacion Creek was conducted in February 2023 (ESA 2023). While San Francisco Bay and attached waters, including Brisbane Lagoon and Visitacion Creek, are identified as NOAA essential fish habitat for Pacific salmon species (e.g., chinook salmon),[4] the ESA reconnaissance surveys determined that on-site waters in the lagoon and creek provide poor habitat for special-status fish species. Tidal portions of these features have a low potential to support Chinook salmon and Pacific herring. These features have a moderate potential to intermittently support steelhead trout, green sturgeon, and longfin smelt. Brisbane Lagoon and Visitacion Creek do not provide spawning or rearing habitat for any of these species; however, stray individuals may sporadically occupy tidal portions of these features during regular movements and migration. If present, individuals would

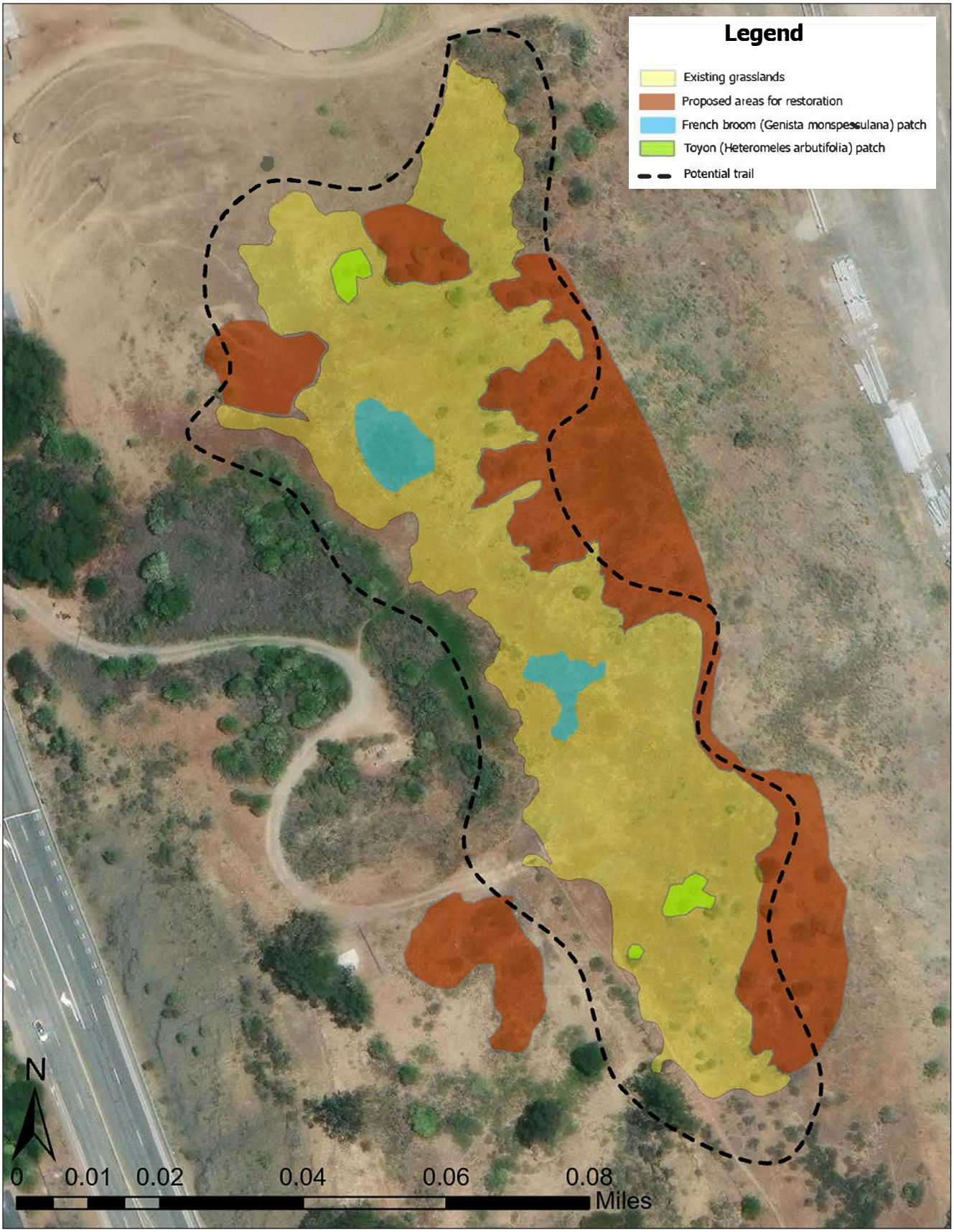
[4] EFH Mapper (noaa.gov), accessed September 9, 2023.



2022/D20220826.00 - Brisbane Baylands Technical Report Review/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: Coast Ridge Ecology, 2023

Figure 5
Butterfly Host and Nectar Plants at Icehouse Hill



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SOURCE: Coast Ridge Ecology, 2023

Figure 6
Potential Areas for Butterfly Habitat Restoration at Icehouse Hill

be able to move away from construction disturbance and would be minimally affected by the energetic expense of avoiding work in the lagoon area during construction. The implementation of the measures adopted in the 2018 Brisbane Baylands Final Program EIR require preparation of a Stormwater Pollution and Prevention Plan and Stormwater Management Plan, which would reduce erosion and sediment impacts to on-site aquatic habitats and Brisbane Lagoon. Critical habitat for fish species was not documented in Brisbane Lagoon or Visitacion Creek. As a result of these findings, impacts on fish species would be less than significant.

Amphibians and Reptiles

No special-status amphibians or reptiles are expected on or near the Project site, and, therefore, no impacts would occur.

Birds

Special-Status Birds

Burrowing owl (*Athene cunicularia*). Western burrowing owl is a CDFW Species of Special Concern. Potential impacts to burrowing owls and their nests fall under the jurisdiction of the Migratory Bird Treaty Act, CEQA, and Californian Fish and Game Code Sections 3500, 3503.5, and 3800.

The burrowing owl is a small, predominantly diurnal ground-nesting bird. They are year-round residents in much of their range, including California (Shuford and Gardali 2008).and are found in a variety of annual grasslands and open areas with small mammal burrows. Burrowing owls require low vegetative cover for vantage and adequate perch sites. Burrowing owls prefer level to gently sloping areas (Haug et al. 1993), such as annual grasslands, shortgrass prairie, pastures, hayfields, and fallow fields (Dechant et al. 2002). Burrowing owls also occur in urban and agricultural habitats adjacent to roads and railroads, irrigation ditches, and vacant lots where grasses are mowed (Dechant et al. 2002). Throughout California, western burrowing owls primarily use California ground squirrel (*Otospermophilus beecheyi*) burrows. Recent reconnaissance surveys did not observe suitable habitat for this species (i.e., subterranean burrows); and grasses and vegetation were too long for owl vantage, and open areas were prone to human and vehicle disturbance.

Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*). The saltmarsh common yellowthroat is a California Species of Special Concern with a known breeding range in the tidal marsh areas of San Francisco Bay; however, the tidal marsh habitat at the Project site is insufficiently dense to provide suitable habitat for this species. Therefore, this species is not expected on the Project site, and no impact is expected to this species.

California black rail (*Laterallus jamaicensis coturniculus*). The California black rail is a state listed threatened species found in the tidal salt marshes of the northern San Francisco Bay, principally in San Pablo and Suisun Bays. The Project site is generally out of this species' range and generally supports sparse and fragmented brackish marsh habitat that is atypical for this species. No impacts to California black rail would occur.

Ridgway's rail (*Rallus obsoletus obsoletus*). Ridgway's rail, also known as California clapper rail, was listed as endangered on October 13, 1970. Its updated recovery plan was finalized in August 2013 for this species along with four other endangered species, in the *Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California* (Recovery Plan) (USFWS 2013). Ridgway's rail is one of the largest rails, but secretive and difficult to observe in dense vegetation. Ridgway's rails breed from February to August. They are most active in the early morning and late evening when they forage in marsh vegetation in and along creeks and mudflat edges. They often roost at high tide during the day (USFWS 2013). Ridgway's rail prefers larger marshes with high tide refugia and mudflats for foraging, and high density of channels and variety of marsh vegetation from cordgrass (*Spartina foliosa*) to high marsh gumplant (*Grindelia* sp.). Ridgway's rails are restricted almost entirely to the marshes of San Francisco estuary, where they inhabit a range of salt and brackish marshes. In south and central San Francisco Bay and along the perimeter of San Pablo Bay, rails typically inhabit salt marshes dominated by pickleweed (*Salicornia virginica*) and Pacific cordgrass. Pacific cordgrass dominates the middle marsh zone throughout the south and central Bay. Protocol-level surveys for the Ridgway's rail were conducted at Brisbane Lagoon in February–March 2020 (Edelstein 2020) and produced negative results. In addition, a reconnaissance survey in February 2023 found the tidal marsh habitat too small, disturbed, and fragmentary to support this species (ESA 2023). As such, no impact to this species would occur.

Nesting Birds

Birds protected by the MBTA include all native bird species that may be present on the Project site and could be harmed by site construction activities, such as grading, vegetation removal, construction equipment, and traffic, whether or not the birds actually migrate. Nesting migratory birds may use woodland, marsh, and grassland habitats for nesting in trees, shrubs, or tall grasses, including ornamental vegetation. On this Project site, the only listed bird species with a moderate potential to occur (primarily in terms of nesting habitat) is the Alameda song sparrow, which is a California Species of Special Concern; however, as previously mentioned, the MBTA covers all native bird species that may be nest on the Project Site, including the Alameda song sparrow. The MBTA does not include non-native species whose occurrences in the United States are solely the result of intentional or unintentional human-assisted introduced.

Nesting birds may be injured or killed if trees or shrubs are removed during nest season, or may abandon nests with eggs or young, if noise and human disturbance occur in close proximity. These impacts would be potentially significant. For nesting birds, CDFW generally recommends a 250-foot construction exclusion zone around the nests of active passerine songbirds during the breeding season and a 500-foot buffer for nesting raptors. These buffer distances are considered initial starting distances once a nest has been identified and are commonly revised downward to as low as 25 to 50 feet and 250 feet, respectively, based on site conditions and the nature of the work being performed. For example, distances are often reduced if obstacles such as buildings or trees obscure the construction area from active bird nests, or existing disturbances create an ambient background disturbance similar to the proposed disturbance. The general raptor and passerine bird nesting period cited by CDFW is from February 1 to August 31.

Mammals

Special-status bats (Townsend's big-eared bat and the hoary bat) are the only terrestrial special-status mammals that could occupy the Project site. The Townsend's big-eared bat is a California Species of Special Concern and a Western Bat Working Group (WBWG) high priority species (species that are imperiled or at a high risk of imperilment), and the hoary bat is a WBWG medium priority species (species that warrant a closer evaluation due to potential imperilment). Potential habitat may be present for the hoary bat in large trees on the site. Habitat for the Townsend's big-eared bat is in abandoned structures with intact walls and ceilings that are not subject to human disturbance, caves, or rocky crevices. The Project Site does not contain caves or rocky crevices, and the only abandoned structure on the Project site is the Roundhouse, which is predominately exposed (i.e., without caves or continuous ceilings or walls), and it is subject to human disturbance; therefore, this species is not expected on the site. Hoary bats roost in trees and may be injured or killed during vegetation removal or building restoration or demolition.

Marine mammal species are generally not expected on or near the Project site. As documented in 2020, the California sea lion may sporadically enter tidal portions of the Brisbane Lagoon. It is reasonable to consider that harbor seals could also stray into the lagoon. Such use would be ephemeral and would not be subject to construction or operational impacts from the Project. No project-related impacts are expected to these species.

Special-Status Plants

While Icehouse Hill would be retained as open space for passive recreational use following site development, recreational trails constructed there would traverse annual grassland and coastal scrub habitats that may support four special-status plant species. The western edge of Icehouse Hill on the Project site provides suitable habitat for four CNPS Range 1B.2 species: bent-flowered fiddleneck, San Francisco collinsia, Choris' popcorn flower, and San Francisco campion. Bent-flowered fiddleneck occurs in a variety of habitats, including valley and foothill grassland and coastal scrub. It known from San Bruno Mountain and may occur in coastal scrub or grassland habitat on Icehouse Hill. San Francisco collinsia is an herbaceous annual that favors coastal scrub and moist, shady woodlands with serpentine soils. Known to occur on Bayview Hill, approximately 0.5 miles north of the Project site and also on San Bruno Mountain southwest of the Project Site, potential habitat is available within coastal scrub habitat on Icehouse Hill. Choris' popcorn-flower is an herbaceous annual found in moist, grassy areas in coastal scrub and chaparral. This species could occur in scrub communities on Icehouse Hill. Finally, San Francisco Campion is a perennial species that prefers sandy or rocky soils within grassland and scrub communities. Known from fewer than 20 occurrences, this species is known from San Bruno Mountain and may occur on Icehouse Hill.

Operational Impacts

Operational impacts associated with the ongoing occupancy and use of the proposed residential, commercial, or recreational land uses could also impact special-status species or sensitive habitats as a result of human encroachment, off-leash pets, and debris and litter. Such impacts potentially

include direct and indirect impacts to special-status plants on Icehouse Hill, if present, from off-trail activities by humans, dogs, and/or horses.

The Open Space and Conservation Element of the Baylands Specific Plan (Sections 5.4.3 and 5.4.4) requires the following to control visitor and/or pet disturbance to sensitive species or habitats:

- Adjacent upland areas will be designed to serve as habitat buffers.
- Where needed, physical barriers, such as split-rail fencing, chain-link fencing or equivalent screening, will be maintained. Barriers will be at least three feet high with native vegetation planted on either side to keep dogs, cats, and other household pets out of water-related habitats.
- Educational/interpretive signage will be provided, which typically includes information about the sensitivity of the habitats, and signage requiring visitors to remain on trail pathways and pets, if allowed, to be kept on leash.

However, the Baylands Specific Plan requirements do not identify which sensitive habitat areas require buffers or provide specific standards for implementation of buffers and/or barriers. Further, because the Open Space design contained in the Baylands Specific Plan is illustrative, it is possible that the final design could result in a plan that does not provide adequate buffers or barriers between publicly accessible areas and sensitive habitats, such as mitigation areas, butterfly habitat, riparian and aquatic areas, and/or sensitive natural communities.

With respect to litter or debris, Section 8.16.060 of the City of Brisbane's Municipal Code requires that "The owner or person in control of any private property shall at all times maintain the premises free of litter; provided, however, that this section shall not prohibit the storage of litter in authorized private receptacles for collection." Therefore, the Project site would be required (by the City's Municipal Code) to be kept free of litter or debris that could potentially impact sensitive or common biological resources.

Threshold 2: Sensitive Natural Communities, including Waters of the United States and Wetlands

The Baylands Specific Plan would cause a significant impact if it would result in the net loss of existing wetland and non-wetland waters acreage, functions, or values, and associated sensitive natural communities.

The Baylands Specific Plan Area contains one terrestrial sensitive natural community, California Goldfields-Dwarf Plantain Flower Fields, as identified in Figure 7, that would be avoided by the project. No direct or indirect impacts are anticipated to this sensitive natural community. Therefore, no impacts would occur.

Jurisdictional wetlands and non-wetland waters, including open waters (e.g., the Lagoon and Visitacion Creek), are located on the Project site (refer to Figure 4a through Figure 4c). As previously mentioned, ESA reviewed and independently verified the Baylands *Wetland*

Delineation Report that was verified by USACE in the July 2021 PJD (Biohabitats 2023b, Appendix 4), through site reconnaissance surveys conducted in September 2022 and February 2023 and a review of current and historic aerial photographs.

As shown in **Table 3** (Biohabitats 2023b), a total of 16.92 acres of USACE jurisdictional wetland and non-wetland waters within and adjacent to Visitacion Creek and the north shore of Brisbane Lagoon would be removed by implementation of the Baylands Specific Plan, including 14.50 acres of wetlands and 2.42 acres of non-wetland waters. Visitacion Creek and surrounding jurisdictional habitats would be graded. Brisbane Lagoon would remain in place, although there would be impacts to wetland and non-wetland waters as part of the construction of Lagoon Park.

TABLE 3
IMPACTED USACE JURISDICTIONAL WETLANDS AND NON-WETLAND WATERS

	Classification	Habitat Type/Hydrology (See Note)	Impacted Acreage
Wetlands			
Wetland	Palustrine Emergent	Freshwater Marsh (1)	11.68 acres
Wetland	Estuarine Emergent	Tidal/Intertidal Marsh (2)	1.09 acres
Wetland	Constructed Basin	Seasonal Wetlands (3)	1.73 acres
Subtotal Wetlands			*14.50 acres*
Non-Wetland Waters			
Non-wetland waters	Subtidal Mudflat	Subtidal Mudflat (4)	1.10 acres
Non-wetland waters	Estuarine Rocky Shore	Tidal/Intertidal Marsh (2)	1.06 acres
Non-wetland waters	Constructed Waterway	Seasonal Non-Wetland Waters (5)	0.26 acres
Subtotal Non-Wetland Waters			*2.42 acres*
Total Wetlands and Non-Wetland Waters			16.92 acres

SOURCE: Biohabitats 2023b (Wetland Delineation), representing the acreages accepted by the verified PJD from July 2021.
NOTE: The parenthetical numbers – (1) through (5) – relate to the hydrologic functions also provided in Table 4.

Table 3 and the July 2021 PJD (Biohabitats 2023b) indicates approximately 14.50 acres of wetlands would be removed as a result of implementation of the Baylands Specific Plan, as follows:

- 11.68 acres of palustrine emergent habitat (freshwater marsh; south of Visitacion Creek and within the Roundhouse/Icehouse Hill Districts)
- 1.09 acres of estuarine emergent habitat (tidal/intertidal marsh; north and south of Visitacion Creek and along the north shore of Brisbane Lagoon)
- 1.73 acres of constructed basin (seasonal wetlands; north and south of Visitacion Creek and within the Sustainability District)

In addition, Table 3 and the July 2021 PJD (Biohabitats, 2023b) indicates that approximately 2.42 acres of non-wetland waters would be removed as a result of implementation of the Baylands Specific Plan, as follows:

- 1.10 acres of open waters (subtidal non-wetland waters; Visitacion Creek and Brisbane Lagoon)

- 1.06 acres of estuarine rocky shore habitat (tidal/intertidal marsh; northern shore of Brisbane Lagoon)
- 0.26 acres of constructed waterways (seasonal; Visitacion Creek)

The USACE-verified PJD assesses inundation and drought events as reflected by long-term soil, hydrologic, and vegetative conditions. However, wetland and non-wetland waters can be affected over time by both natural and man-made activities, and, as a result, changes in jurisdictional boundaries could occur. Therefore, the USACE has determined that a PJD remains valid for a period of five years, unless new information warrants revision of the determination before the expiration date or a USACE District Engineer identifies specific geographic areas with rapidly changing environmental conditions that merit re-verification on a more frequent basis (see Regulatory Guidance Letter (RGL) 05-02, June 14, 2005). In addition, jurisdictional areas under the Clean Water Act can change as regulations and guidance documents change. Therefore, as part of the permitting process for this Project, and prior to any site development activities that could directly or indirectly impact wetland or non-wetland waters, the USACE will determine whether the January 2023 Wetland Delineation (Biohabitats, 2023b), as verified by the PJD, remains valid or whether a new delineation is warranted, which may affect the area of impacted wetland and non-wetland waters subject to USACE jurisdiction.

For purposes of this analysis, all impacted USACE wetland and non-wetland waters reflected in Table 3 are also conservatively assumed to be subject to CDFW jurisdiction pursuant to Sections 1600 through 1616 of the Fish and Game Code of California. The Fish and Game Code of California regulates any activity that may (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or (3) deposit debris, waste or other materials that could pass into any river, stream or lake. The areas of impact identified in Table 3 include Visitacion Creek and the north shore of Brisbane Lagoon, as well as some isolated wetlands; it is likely that any isolated wetlands would not be subject to CDFW jurisdiction. Therefore, it is conservative to assume that USACE jurisdiction is coincident with CDFW jurisdiction.

Proposed Restoration Actions

The Baylands Specific Plan's Conservation and Open Space Plan (Figures 5.3.3 and 5.3.4) identifies the area surrounding Visitacion Creek and the north shore of Brisbane Lagoon as proposed areas for the creation of tidally-influenced marsh/wetlands, freshwater marsh/wetlands, subtidal mudflats, and re-construction of Visitacion Creek itself.

Proposed freshwater marsh restoration would include seasonally depressed freshwater wetlands above the proposed ecotone slope, on shelves extending from either side of the tidal marsh, to be sustained by runoff generated from designed drainage areas. In addition, water from the freshwater wetlands would be designed to seep into the ecotone slope during periods with higher water levels. Revegetation would include locally native species appropriate to freshwater and tidal wetlands. An additional description of proposed restoration activities is provided below for both Visitacion Creek and Brisbane Lagoon.

Goal 5.2.2 of the Open Space and Conservation Plan of the Baylands Specific Plan seeks to "preserve, restore, and enhance native plant communities and wildlife habitat in open spaces to promote ecological diversity and regional connectivity." Strategies for Visitacion Creek and Brisbane Lagoon and the associated wetland systems include protection and restoration/enhancement to improve ecological functionality and aquatic habitat benefits.

Visitacion Creek

An illustrative concept diagram for Visitacion Creek is provided in the Baylands Specific Plan's Conservation and Open Space Plan as Figure 5.3.31, with cross-sections of potential locations for wetlands provided by Specific Plan Figures 5.3.33 through 5.3.36. The illustrative concept diagrams show that Visitacion Creek would be reconstructed, expanded, and vegetated with riparian vegetation in approximately the same location, with adjacent overflow basins, habitat islands, and adjacent tidal marsh with gentler slopes, transitioning to an ecotone slope that includes restored and enhanced adjacent tidal flats, tidal marsh wetlands, and freshwater wetlands. The existing culverted service road crossing that drains to Visitacion Creek would be improved by replacement of the western Tunnel Avenue culvert with either a bridge or new culvert and by the replacement of an eastern culvert to a wider-spanning bridge at Sierra Point Parkway. Upland buffers would be located outside the freshwater wetlands to allow for migration of landcover due to sea level rise and provide protection from human and animal disturbance.

Brisbane Lagoon

An illustrative concept diagram for Brisbane Lagoon is provided in the Baylands Specific Plan's Conservation and Open Space Plan as Figure 5.3.23, with cross-sections of potential locations for wetlands provided by Specific Plan Figures 5.3.25 through 5.3.28. In addition, the illustrative concept diagram provided by Specific Plan Figure 5.3.4, Biotic Habitat Zones Within and Adjacent to the Brisbane Lagoon, designates the tidal flats area located along the north shore of the Lagoon as "Open Area Protection" for their preservation and protection. Ground disturbance north of the tidal flats up to the relocated Lagoon Road is required for restoration and enhancement of existing habitat and stormwater features. Most of the marsh areas around Brisbane Lagoon would be preserved, while enhancements to tidal flats, tidal marsh wetlands, and freshwater wetlands would be provided along with recreational amenities along the north shore of the Lagoon within Lagoon Park. Overall, physical improvements in this area will remain largely naturalized, but also include amenities that provide educational/recreational community spaces and means for accessibility. Park amenities include at-grade walks and bikeways, an elevated walk, wildlife observation areas, gardens, play spaces, picnic areas, and limited parking.

Impact Analysis

Direct Impacts to Wetland and Non-Wetland Waters

As previously mentioned, the open space plans for Visitacion Creek and the north shore of Brisbane Lagoon (i.e., Lagoon Park), as presented in the Baylands Specific Plan, are illustrative concepts only and are not accompanied by a plan for implementation to guarantee success. While technical studies prepared for the Baylands Specific Plan indicate the intent to provide in-kind replacement of impacted wetland and non-wetland waters on a 1:1 acreage basis, the Baylands Specific Plan does

not explicitly commit to such replacement. Therefore, it is possible that the final design for the restored and/or enhanced wetland and non-wetland water areas (e.g., mitigation areas) might deviate from the illustrative concept provided in the Baylands Specific Plan and/or may not successfully achieve the threshold of no net loss of wetland and non-wetland waters acreage, functions, and values (i.e., in-kind replacement on a 1:1 acreage basis) when initially installed (as-built). To accommodate sea level rise (SLR), the State of California Sea-Level Rise Guidance (2018) recommends using a "low risk aversion" scenario for adaptive, lower-consequence decisions, such as wetland restoration or the installation of trails, which is a minimum of 3.1 feet at the year 2100.[5]

To avoid the net loss of wetland and non-wetland waters acreage, functions, and values when initially installed and with 3.1 feet of SLR, in-kind restoration/enhancement of the impacted habitats at a 1:1 ratio is required. **Table 4**, demonstrates how the 16.92 acres of impacted wetlands and non-wetland waters would be restored/enhanced in-kind on a 1:1 mitigation ratio, both when initially installed (as-built) and with 3.1 feet of SLR. As previously mentioned, the proposed mitigation would occur at Visitacion Creek and the north shore of Brisbane Lagoon.

Table 4 presents the area of impacted wetlands and non-wetland waters that would occur with implementation of the Baylands Specific Plan, which is also presented in Table 3. In addition, Table 4 presents the habitat types and quantities that would occur at Visitacion Creek, the north shore of Brisbane Lagoon, and both locations combined using the wetland design provided in the Baylands Specific Plan under as-built conditions (i.e., when initially installed) and with 3.1 feet of SLR. For informational purposes, habitat types and quantities with 6.5 feet of SLR are also provided. A more detailed discussion of Table 4 immediately follows the table.

Table 4 demonstrates that the restoration/enhancement provided at Visitacion Creek and the north shore of Brisbane Lagoon (as provided in the Baylands Specific Plan) would exceed the acreage of the habitat types removed as a result of implementation of the Project (i.e., freshwater/seasonal wetlands and non-wetland waters, tidal/intertidal marsh, and subtidal mudflat) under both as-built conditions and with 3.1 feet of SLR. The Specific Plan's restoration/enhancement designs for Visitacion Creek and the north shore of Brisbane Lagoon show the ecotone slope extending above the tidal marsh, which would accommodate SLR by providing marsh transition zones that would allow for future marsh migration.

If the illustrative design for Visitacion Creek and the north shore of Brisbane Lagoon is implemented as described in the Baylands Specific Plan and if an implementing vehicle is provided to guarantee success of the restoration/enhancement activities, in-kind replacement of wetland and non-wetland waters would be provided on a 1:1 basis. However, the design is only an illustrative concept and does not yet include an implementing mechanism (e.g., a Mitigation Monitoring and Reporting Plan).

[5] In contrast, state guidance calls for using a "medium-high risk aversion" scenario for higher-consequence decisions that could affect public health or safety, such as the placement of housing or other development in areas that would be prone high levels of sea level rise in the future.

TABLE 4
IMPACTED AND RESTORED/ENHANCED WETLAND AND NON-WETLAND WATERS

Habitat Type/ Hydrology (See Note)	Impacted Wetlands and Non-Wetland Waters	Restored/Enhanced Wetland and Non-Wetland Waters								
		Visitacion Creek			North Shore of Brisbane Lagoon (Lagoon Park)			Visitacion Creek + North Shore of Brisbane Lagoon (Lagoon Park)		
		Initially Installed (As-Built)	+3.1 ft SLR	+6.5 ft SLR	Initially Installed (As-Built)	+3.1 ft SLR	+6.5 ft SLR	Initially Installed (As-Built)	+3.1 ft SLR	+6.5 ft SLR
Freshwater Marsh/Seasonal Wetlands and Non-Wetland Waters (1), (3), (5)	13.67	11.38	11.38	0.00	3.82	3.82	0.00	15.20	15.20	0.00
Tidal/Intertidal Marsh (2)	2.15	2.20	2.52	13.01	2.00	8.72	12.72	4.20	11.24	25.73
Subtidal Mudflat (4)	1.10	1.60	3.67	6.24	0.20	1.85	10.76	1.80	5.52	17.00
Wetlands & Non-Wetlands Subtotal	*16.92*	*15.18*	*17.57*	*19.25*	*6.02*	*14.39*	*23.48*	*21.20*	*31.96*	*42.73*
Uplands		23.54	21.15	19.47	26.38	18.01	8.92	49.92	39.16	28.39
Total	***16.92***	***38.72***	***38.72***	***38.72***	***32.40***	***32.40***	***32.40***	***71.12***	***71.12***	***71.12***

SOURCES: ESA SLR Tech Report, Figure 5, 2024; Biohabitats Wetland Delineation Report, 2023; The Baylands Specific Plan, Chapter 05, 2023

NOTE: The parenthetical numbers (1) through (5)—relate to the hydrologic functions also provided in Table 3.

For informational purposes, Table 4 also presents what could occur with 6.5 feet of SLR (a medium-high risk aversion scenario), which would be an expected transition of freshwater marsh and upland habitat to subtidal, tidal, and intertidal habitats as sea levels rise. With 6.5 feet of SLR, the amount of wetland and non-wetland waters at Visitacion Creek and the north shore of Brisbane Lagoon would be greater than as-built conditions and conditions with 3.1 feet of SLR, which would result from the loss of freshwater marsh and upland habitats.

Also, for informational purposes, while the resource agencies (i.e., USACE and CDFW) require a minimum mitigation ratio of 1:1, mitigation requirements may increase based on the wetland/functional components of the impact areas and/or the proposed compensatory mitigation sites. Factors considered in determining mitigation ratios include temporal delays between impacts and target mitigation conditions, change in wetland types, loss of identified wetland functions if they are not being replaced at the compensatory mitigation site, rare or regionally significant wetland types, and site- or project-specific conditions. Resource agencies recognize that even the temporary loss of jurisdictional wetland and non-wetland functions and values would result in a potentially significant impact. As an example of temporarily impacted habitat functions, during and following construction (e.g., during the habitat restoration process), aquatic features may not be capable of sustaining aquatic macroinvertebrate populations, that, in turn, would support larger aquatic species, such as fish and birds. Hence, the overall productivity of aquatic habitats on the site could be lost or reduced for an unknown period of time. Actual mitigation ratios for impacted wetland and non-wetland waters would be determined during the USACE Section 404, CDFW Section 1603, and RWQCB permitting processes based on field observations at both the impact and potential mitigation sites. In addition, the Compensatory Wetland Mitigation and Monitoring Plan would be informed, guided, and approved by regulatory agencies through the jurisdictional permitting process.

Indirect Impacts to Wetland and Non-Wetland Waters

Indirect damage caused by sediment delivery and the temporary impairment of water quality from localized construction near the re-constructed Visitacion Creek or within Lagoon Park adjacent to Brisbane Lagoon could occur. Grading and construction on steep slopes or highly erodible soils can lead to soil particles entering freshwater or intertidal/tidal marshes, and sedimentation can also degrade aquatic and marsh wildlife habitat that is important to marsh wildlife. These indirect impacts would be potentially significant.

Adherence with the required National Pollutant Discharge Elimination System (NPDES) permits would require the Project or Permit Application to prepare Stormwater Pollution and Prevention Plans (SWPPPs) and Stormwater Management Plan (SMPs) to address erosion and sediment control methods or devices that prevent runoff or construction debris from entering sensitive areas containing marsh, riparian, or tidally influenced habitats, including wetland and non-wetland waters (i.e., jurisdictional features). These Plans would include methods or devices such as the installation of silt fencing or straw wattles; locating fueling stations away from sensitive areas; or establishing perimeter controls around sensitive areas.

Threshold 3: Wildlife Movement

Aside from small terrestrial species that reside within habitat on the site, there is limited potential for terrestrial wildlife movement through the Baylands Project site. Surrounding physical barriers to wildlife movement are created by major roads and highways, industry, railroad tracks, pipelines, and fences. However, wildlife may move along Visitacion Creek and within the freshwater marshes in the western portion of the site.

Fish and other aquatic species may enter Baylands waters through culverts under U.S. Highway 101, but these waters do not provide or connect to spawning habitat for any species, so fish and marine mammals would only stray in or visit while foraging.

For butterflies, Icehouse Hill provides potential connection to habitat on San Bruno Mountain with butterfly habitat patches within Baylands.

Terrestrial Species

Construction and restoration/enhancement of wetland and upland habitat areas within Baylands Park, Ecological Park, Visitacion, Creek, Icehouse Hill, Lagoon Park, and the Baylands Preserve would have a beneficial effect on the wildlife movement of terrestrial species that use wetland habitats and aquatic corridors. As reflected in Figure 5.1 (Site Open Space) of the Open Space and Conservation Plan of the Baylands Specific Plan and Figure 3-5 of the Baylands Specific Plan EIR, the existing and enhanced/restored habitat areas would create an interconnected system of uplands, freshwater wetlands, tidal marsh, and tidal flats that would improve habitat quality as compared to existing conditions and facilitate the movement of wildlife within the Baylands Specific Plan's open spaces. The Baylands Specific Plan proposes protecting and creating a diverse landscape within the open space network that encompasses broad hydrologic, topographic, and plant community gradients supporting the movement of terrestrial species. In addition, under-road wildlife connections are proposed at Tunnel Avenue, Visitacion Creek Road North, and Sierra Point Parkway as reflected page 247 of the Baylands Specific Plan EIR in the form of a small culvert or clear span bridge, sized appropriately for small terrestrial fauna to traverse between local and regional habitat patches. The under-road wildlife connection provided at Sierra Point Parkway and the Bay Trail will consist of a clear span bridge replacing the existing culvert.

Butterflies

The distance between Icehouse Hill and the easternmost point of San Bruno Mountain (the Carter-Martin management unit), where Callippe silverspot butterflies are known to occur, is 0.23 miles, less than the reported 0.75-mile dispersal distance for Callippe silverspot (Coast Ridge 2023). Because Icehouse Hill is within the dispersal range for the Callippe silverspot butterfly and there are known populations of this species within the San Bruno Mountain ecosystem, the introduction of restored and enhanced habitat for this species on Icehouse Hill would allow for potential population expansion for these endangered butterfly species (i.e., increased wildlife movement).

As discussed in Threshold 1, although small numbers of host plants for the Bay checkerspot butterfly were detected at Icehouse Hill, the distance between Icehouse Hill and the areas where the species is present on San Bruno Mountain (over 1 mile) may discourage its establishment on Icehouse Hill due to its propensity to remain within a single habitat patch (i.e., San Bruno Mountain). However, despite the species' propensity to remain within a single habitat patch, several authors have documented long-distance dispersal. Harrison (1989) documented movements of up to 3.5 miles by one individual, and other authors have reported movements of up to 5 miles (USFWS 1998). Therefore, it is possible that this species could occupy restored habitat at Icehouse Hill in the future.

The currently proposed layout of trails on Icehouse Hill as proposed in the Baylands Specific Plan (Baylands Development 2023) would cross a grassland area with host plants (*Viola pedunculata*) for Callippe silverspot butterfly. Although surveys during flight season were negative for this species (Coast Ridge 2023; Biohabitats 2020c), larvae or pupae could be present in leaf litter in areas containing the host plant. Thus, damage or removal of this grassland habitat would result in a potentially significant impact relative to wildlife movement.

Bird Strikes

Thousands of migratory birds use the Pacific Flyway during spring and fall, passing over the San Francisco Peninsula and the bay. Bird flights close to man-made structures risk collisions with these structures. Approximately 100 million to 1 billion birds die in North America as a result of building collisions each year (Seewagen 2017). Daytime collisions occur most often when birds fail to recognize window glass because it reflects clouds and sky. Lighting also affects birds during their movement and reproduction. Indirect effects of light disturbance on migratory birds include delayed arrival at breeding or wintering grounds and reduced energy stores necessary for migration, winter survival, or subsequent reproduction (Gauthreaux and Belser 2006).

Under existing conditions, the Project site presents minimal obstacles for migratory birds as the site primarily consists of a landfill and open areas, with low-lying buildings interspersed. Tall, densely-placed structures proposed under the Project would increase the likelihood of migratory and resident birds striking windows of the proposed buildings during flight, causing injury or mortality. The proposed open space landscaping could also attract birds and may increase the likelihood of bird collisions with structures. Further, the addition of commercial and residential buildings up to 270 feet in height (Figure 3.5, Baylands Specific Plan) in high density zones provides limited space for migrating birds to pass.

Different agencies and organizations have established varying heights for bird collision zones, but they are typically 100 feet or less. According to the City of San Francisco's *Standards for Bird-Safe Buildings* (SF Bird-Safe Buildings) (San Francisco Planning Code Section 139) (San Francisco Planning Department 2011), "the most hazardous areas of all buildings, especially during the day and regardless of overall height, are the ground level and bottom few stories." The SF Bird-Safe Buildings indicates the typical bird building collision zone is up to 60 feet. The New York City *Bird Friendly Building Design & Construction Requirements Guidance Document* (November 2020) indicates the bird building collision zone is typically up to 75 feet, and the

Washington, D.C., *Migratory Local Wildlife Protection Act of 2022* (Law 24-337) cites a bird collision zone of up to 100 feet. For purposes of this analysis, the portions of buildings up to 100 feet above grade are considered potential bird collision zones.

Development of the Project site, combined with the development's proximity to natural areas, including on-site features, such as the restored/enhanced Visitacion Creek and Brisbane Lagoon, and off-site areas, including the San Francisco Bay and San Bruno Mountain Park, have the potential to increase the number of bird strikes compared to existing conditions. In addition, building night lighting during operation (i.e., internal lighting and lighting provided on the exterior of buildings, walkways, and parking areas) could attract migratory birds and increase the likelihood of strike injuries or mortality. Night migrants depend on starlight for navigation, and brightly-lit buildings or areas can draw them off course.

In addition to the potential for bird strike injuries or mortality caused by increased nighttime lighting associated with buildings, light spillage from nighttime lighting of development within the Baylands Specific Plan into habitat areas could also have a negative effect on wildlife. Wildlife are typically attuned to the 24-hour seasonal cycle of light and dark. Mating behaviors, sleep, predation, and wildlife movement are influenced by the length of nighttime darkness. Introducing artificial nighttime lighting into habitat areas can disrupt these activities. Owls and bats, for example, can lose the advantage of specialized night vision that enables them to hunt without being seen. Nighttime lighting can also favor other predators, as the nocturnal animals that are their prey lose the cover of darkness to hide.

The placement of multi-story structures with reflective surfaces up to 100 feet in heigh, as well as additional night lighting, would result in a potentially significant impact with respect to bird-strike impacts and nighttime wildlife activities as compared to existing conditions.

As further discussed in Impact AES-4 of the Baylands Specific Plan EIR, development permitted by the Baylands Specific Plan would generate nighttime lighting over a broad area that is now largely dark at night. Specific Plan Section 3.8 requires the Project to meet the performance standards reflected in the Baylands Specific Plan EIR Threshold AES-4 related to quantified light trespass, as well as requiring compliance with light trespass standards through the preparation and review of photometric studies of site-specific development projects prior to issuance of building permits. The photometric studies are required to include an assessment of potential lighting impacts based on the height, location, light fixtures, direction, illumination intensity, and hours of operation.

Threshold 4: Brisbane Tree Regulation Ordinance

Section 12.12 of the City of Brisbane Municipal Code protects certain trees that contribute to the scenic beauty of the city or are found to be of value or significance as a native tree species or are required to be planted and maintained as a condition of development approval; prevents the indiscriminate removal of trees; and protects trees that provide protection against erosion, land instability, flooding, or other hazards.

The City's Municipal Code specifically defines protected tree species as (1) any California Bay (*Umbellularia californica*), Coast Live Oak (*Quercus agrifolia*), or California Buckeye (*Aesculus californica*) that is a mature tree; (2) any other tree designated as a protected tree by resolution of the City Council; (3) any tree, regardless of size, originally required by the city to be planted as a condition for the granting of a permit, license, or other approval, or any tree that existed at the time of the granting of such permit, license, or other approval and required by the city to be preserved as part of such approval; or (4) three or more mature trees of any one or more non-invasive species that are proposed to be removed from the same property or from adjacent property under common ownership. Protected trees require a permit for removal from the City. A tree removal permit typically requires replacement at a minimum ratio of 1:1, or off-site mitigation or in lieu payment.

The remediation and grading work within the Baylands Specific Plan Area will necessitate removal of nearly all trees presently on the property. These trees currently consist mainly of non-native acacia and eucalyptus species, as well as Monterey pines (Metis 2023). As required by the City's Municipal Code, the developer would apply for the necessary permit from the City of Brisbane and adhere to its provisions for tree replacement. As further required by the Baylands Specific Plan's Open Space and Conservation Plan (Section 5.4.5), removed trees shall be replaced at a minimum ratio of 1:1 (native trees shall be substituted in place of non-native trees whenever possible). The minimum ratio of 1:1 shall be met five years after planting; however, initial plantings may require greater than the minimum 1:1 ratio to achieve this standard. As stated in the Baylands Specific Plan's Open Space and Conservation Plan (Table 5.1), construction of the Baylands will specifically include planting of approximately 40 to 75 trees in the woodland habitat within planned open space, as well as numerous ornamental trees within plazas and neighborhoods of the development (Baylands Development 2023). However, at a minimum, the Baylands Specific Plan on-site plantings would comply with the tree permit requirements and, as a result, ensure consistency with the City ordinance.

Off-Site Fire Station

In addition to the Baylands Specific Plan Area, the Project includes construction of a new City fire station at 140 Valley Road to replace the current fire station located at 3445 Bayshore Boulevard. The new and existing fire station sites were surveyed in February 2023 (ESA 2023). The current fire station location will continue to be used by the North County Fire Authority for training purposes with no changes to the trees on the property. The new fire station site consists of an existing, large structure surrounded by a paved parking lot, which is bordered on the northeast by a stormwater swale downslope from Bayshore Blvd. The perimeter of the site was lined with

trees including blue gum (*Eucalyptus globulus*), blackwood acacia (*Acacia melanoxylon*), toyon (*Heteromeles arbutifolia*), pine (*Pinus* sp.), Monterey cypress (*Hesperocyparis macrocarpa*), and coast live oak (*Quercus agrifolia*). Ornamental trees including bottlebrush (*Callistemon* sp.) and a large Monterey cypress were also present near the building. As with Specific Plan development, if these trees were to be removed, they would be subject to the City's tree removal ordinance. Thus, tree removal to accommodate the new fire station proposed as part of the Baylands Specific Plan would be consistent with the City's tree removal ordinance.

Threshold 5: San Bruno Mountain Habitat Conservation Plan

The San Bruno Mountain HCP area is located approximately 0.25 miles southwest of the Baylands site. This HCP includes management and monitoring plans for conservation of listed butterfly species with known populations within the larger San Bruno Mountain ecosystem. Management includes integrating recreational uses, primarily hiking, with habitat conservation, specifically controlling weed infestations and encroachment of scrub into grassland areas suitable for butterfly host plants. Although the Baylands is not subject to the San Bruno Mountain HCP, Baylands restoration would promote the goals of the HCP to conserve and restore listed butterflies by restoring Icehouse Hill in a manner that supports native plants, and particularly host and nectar plants for listed butterfly species. Such an approach would promote butterfly conservation by encouraging host and nectar plant growth, limiting invasive plants, and identifying locations for recreational trails that avoid impacts to host and nectar plants.

Because Icehouse Hill is within dispersal range for Callippe silverspot butterflies, potential colonization of additional habitat in this location could promote population expansion for the Callippe silverspot butterfly, an endangered and fragmented species (Coast Ridge 2023). Over the long term, restoration of Icehouse Hill could support the development of regional metapopulations of this listed butterfly species and promote its recovery. In addition, restoration of Icehouse Hill could also potentially benefit the listed Bay checkerspot, Mission Blue, and San Bruno elfin butterflies.

In addition, the Mission Blue Nursery, a non-profit nursery that collaborates with local communities to restore San Bruno Mountain's native habitats and cultivate its flora, is proposed to be relocated from its existing location at 3435 Bayshore Boulevard to the former police shooting range on Icehouse Hill. Prior to its relocation, appropriate clean up and remediation of the firing range site will be completed.

In summary, the Baylands Specific Plan would not conflict with the provisions of the San Bruno Mountain HCP and would likely result in a potentially beneficial impact on achieving the HCP's goals relative to listed butterfly species.

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CHAPTER 6
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Appendix A
Database Search Records

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: 08/07/2024 15:49:25 UTC
Project Code: 2024-0127131
Project Name: Brisbane Baylands Specific Plan

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

To Whom It May Concern:

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

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

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

Note: IPaC has provided all available attachments because this project is in multiple field office jurisdictions.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

This project's location is within the jurisdiction of multiple offices. However, only one species list document will be provided for all offices. The species and critical habitats in this document reflect the aggregation of those that fall in each of the affiliated office's jurisdiction. Other offices affiliated with the project:

San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

PROJECT SUMMARY

Project Code: 2024-0127131
Project Name: Brisbane Baylands Specific Plan
Project Type: Mixed-Use Construction
Project Description: The Brisbane Baylands Specific Plan area is located in the City of Brisbane (city) in San Mateo County. It includes a comprehensive plan for development of the 641.8-acre Baylands site, including goals, policies, and development standards and plans to guide future development actions. The Plan proposes the development of 2,200 residential units; 6.5 million square feet of retail, commercial, office, conference, research and development, and campus uses; and 500,000 square feet of hotel use.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.692616150000006,-122.39827890475374,14z

Counties: San Francisco and San Mateo counties, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 22 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Salt Marsh Harvest Mouse *Reithrodontomys raviventris* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered

BIRDS

NAME	STATUS
California Least Tern *Sternula antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
California Ridgway"s Rail *Rallus obsoletus obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
Marbled Murrelet *Brachyramphus marmoratus* Population: U.S.A. (CA, OR, WA) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

REPTILES

NAME	STATUS
Green Sea Turtle *Chelonia mydas* Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened
San Francisco Garter Snake *Thamnophis sirtalis tetrataenia* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5956	Endangered

AMPHIBIANS

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat.	Threatened

NAME STATUS

Species profile: https://ecos.fws.gov/ecp/species/2891

FISHES

NAME STATUS

Tidewater Goby *Eucyclogobius newberryi* — Endangered
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/57

INSECTS

NAME STATUS

Bay Checkerspot Butterfly *Euphydryas editha bayensis* — Threatened
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2320

Callippe Silverspot Butterfly *Speyeria callippe callippe* — Endangered
There is **proposed** critical habitat for this species.
Species profile: https://ecos.fws.gov/ecp/species/3779

Mission Blue Butterfly *Icaricia icarioides missionensis* — Endangered
There is **proposed** critical habitat for this species.
Species profile: https://ecos.fws.gov/ecp/species/6928

Monarch Butterfly *Danaus plexippus* — Candidate
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

FLOWERING PLANTS

NAME STATUS

California Seablite *Suaeda californica* — Endangered
Population:
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/6310

Franciscan Manzanita *Arctostaphylos franciscana* — Endangered
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/5350

Presidio Manzanita *Arctostaphylos hookeri var. ravenii* — Endangered
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/7216

Robust Spineflower *Chorizanthe robusta var. robusta* — Endangered
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/9287

San Francisco Lessingia *Lessingia germanorum (=L.g. var. germanorum)* — Endangered
No critical habitat has been designated for this species.

NAME	STATUS
Species profile: https://ecos.fws.gov/ecp/species/8174	
Showy Indian Clover *Trifolium amoenum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered
Sonoma Sunshine *Blennosperma bakeri* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1260	Endangered
White-rayed Pentachaeta *Pentachaeta bellidiflora* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7782	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

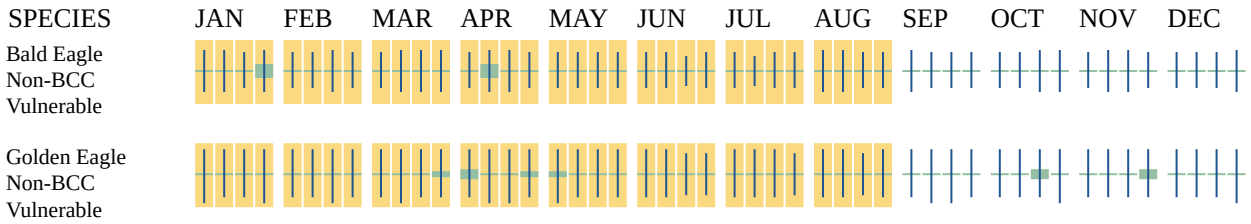
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

■ probability of presence ■ breeding season | survey effort – no data



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird *Selasphorus sasin* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow *Passerculus sandwichensis beldingi* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Black Oystercatcher *Haematopus bachmani* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9591	Breeds Apr 15 to Oct 31
Black Scoter *Melanitta nigra* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10413	Breeds elsewhere
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black Tern *Chlidonias niger surinamenisis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Black Turnstone *Arenaria melanocephala* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10557	Breeds elsewhere
Brandt's Cormorant *Urile penicillatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11903	Breeds Apr 15 to Sep 15

NAME	BREEDING SEASON
Brown Pelican *Pelecanus occidentalis* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/6034	Breeds Jan 15 to Sep 30
Bullock's Oriole *Icterus bullockii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9458	Breeds Mar 21 to Jul 25
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10955	Breeds Mar 1 to Jul 31
California Thrasher *Toxostoma redivivum* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9436	Breeds Jan 1 to Jul 31
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10575	Breeds Jun 1 to Aug 31
Common Loon *gavia immer* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/4464	Breeds Apr 15 to Oct 31
Common Murre *Uria aalge* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10453	Breeds Apr 15 to Aug 15
Common Yellowthroat *Geothlypis trichas sinuosa* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Double-crested Cormorant *phalacrocorax auritus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/3478	Breeds Apr 20 to Aug 31

NAME	BREEDING SEASON
Elegant Tern *Thalasseus elegans* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8561	Breeds Apr 5 to Aug 5
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Heermann's Gull *Larus heermanni* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11955	Breeds Mar 15 to Aug 31
Lawrence's Goldfinch *Spinus lawrencei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Long-eared Owl *asio otus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Long-tailed Duck *Clangula hyemalis* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/7238	Breeds elsewhere
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Northern Harrier *Circus hudsonius* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8350	Breeds Apr 1 to Sep 15
Nuttall's Woodpecker *Dryobates nuttallii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse *Baeolophus inornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15

NAME	BREEDING SEASON
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Red Knot *Calidris canutus roselaari* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8880	Breeds elsewhere
Red Phalarope *Phalaropus fulicarius* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10469	Breeds elsewhere
Red-breasted Merganser *Mergus serrator* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10693	Breeds elsewhere
Red-necked Phalarope *Phalaropus lobatus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10467	Breeds elsewhere
Red-throated Loon *Gavia stellata* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/9589	Breeds elsewhere
Ring-billed Gull *Larus delawarensis* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10468	Breeds elsewhere
Santa Barbara Song Sparrow *Melospiza melodia graminea* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5513	Breeds Mar 1 to Sep 5
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere

NAME	BREEDING SEASON
Surf Scoter *Melanitta perspicillata* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10463	Breeds elsewhere
Tricolored Blackbird *Agelaius tricolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Western Grebe *aechmophorus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Western Gull *Larus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11969	Breeds Apr 21 to Aug 25
White-winged Scoter *Melanitta fusca* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/10462	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10669	Breeds elsewhere
Wrentit *Chamaea fasciata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10668	Breeds Mar 15 to Aug 10
Yellow-billed Magpie *Pica nuttalli* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726	Breeds Apr 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper

Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

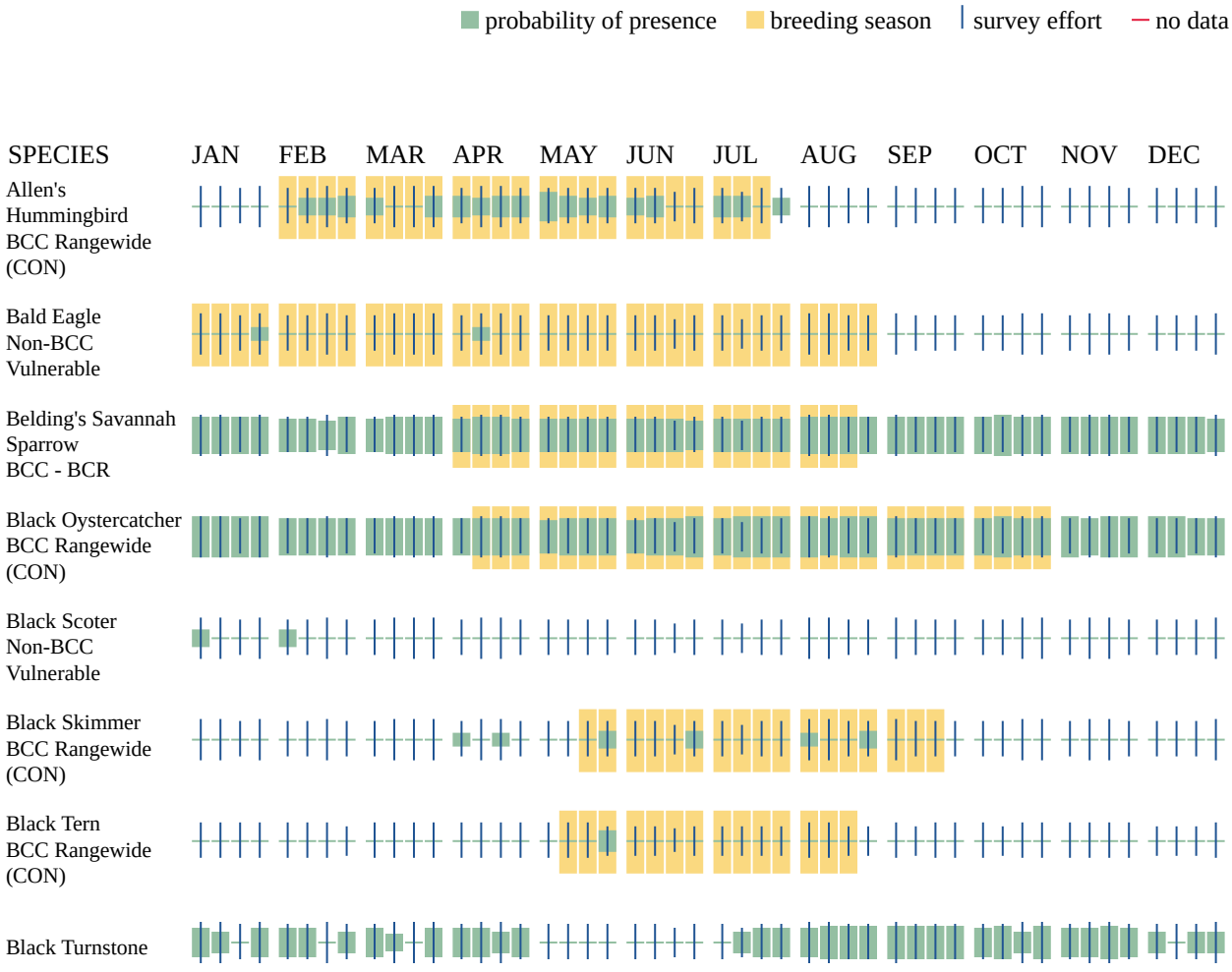
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

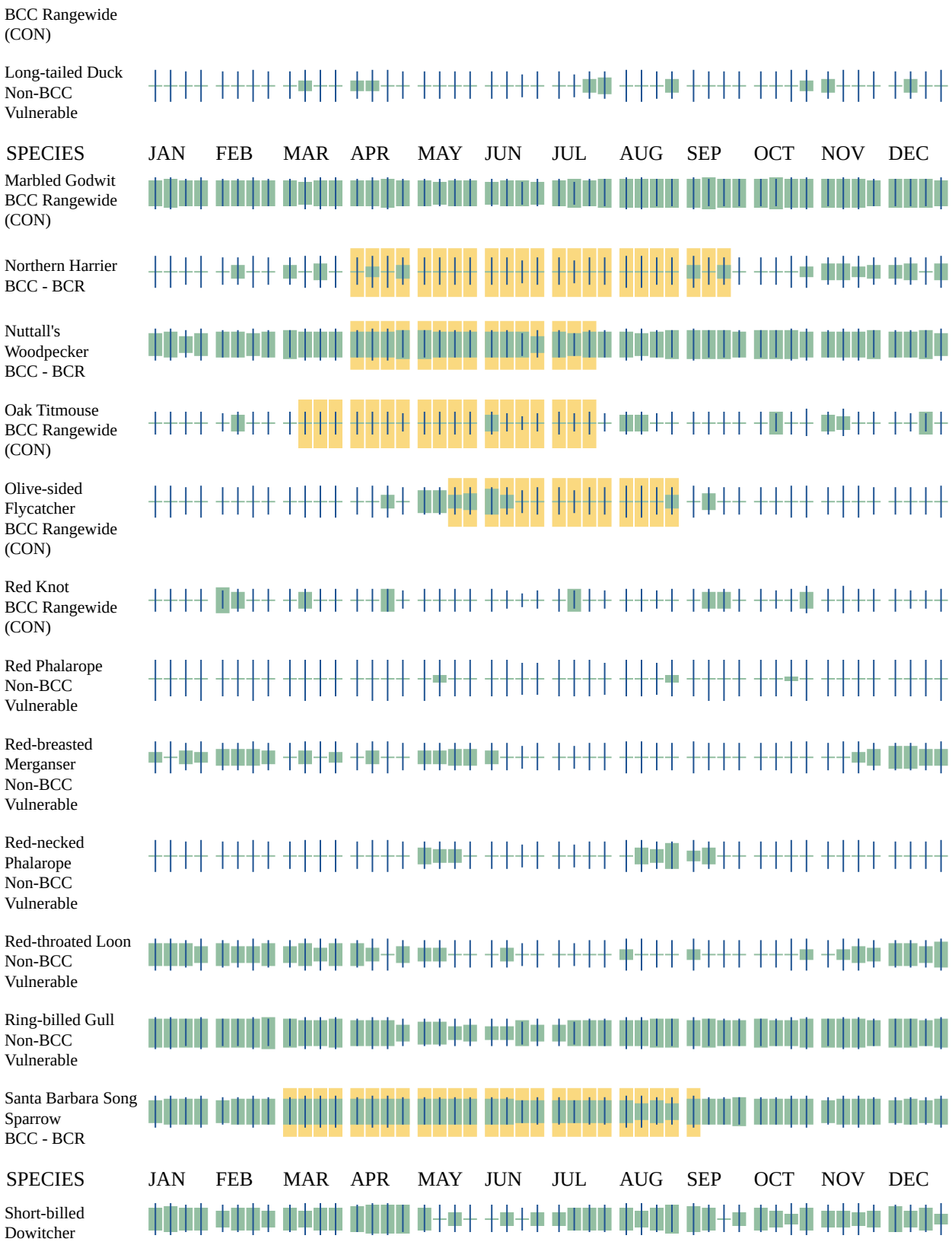
Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

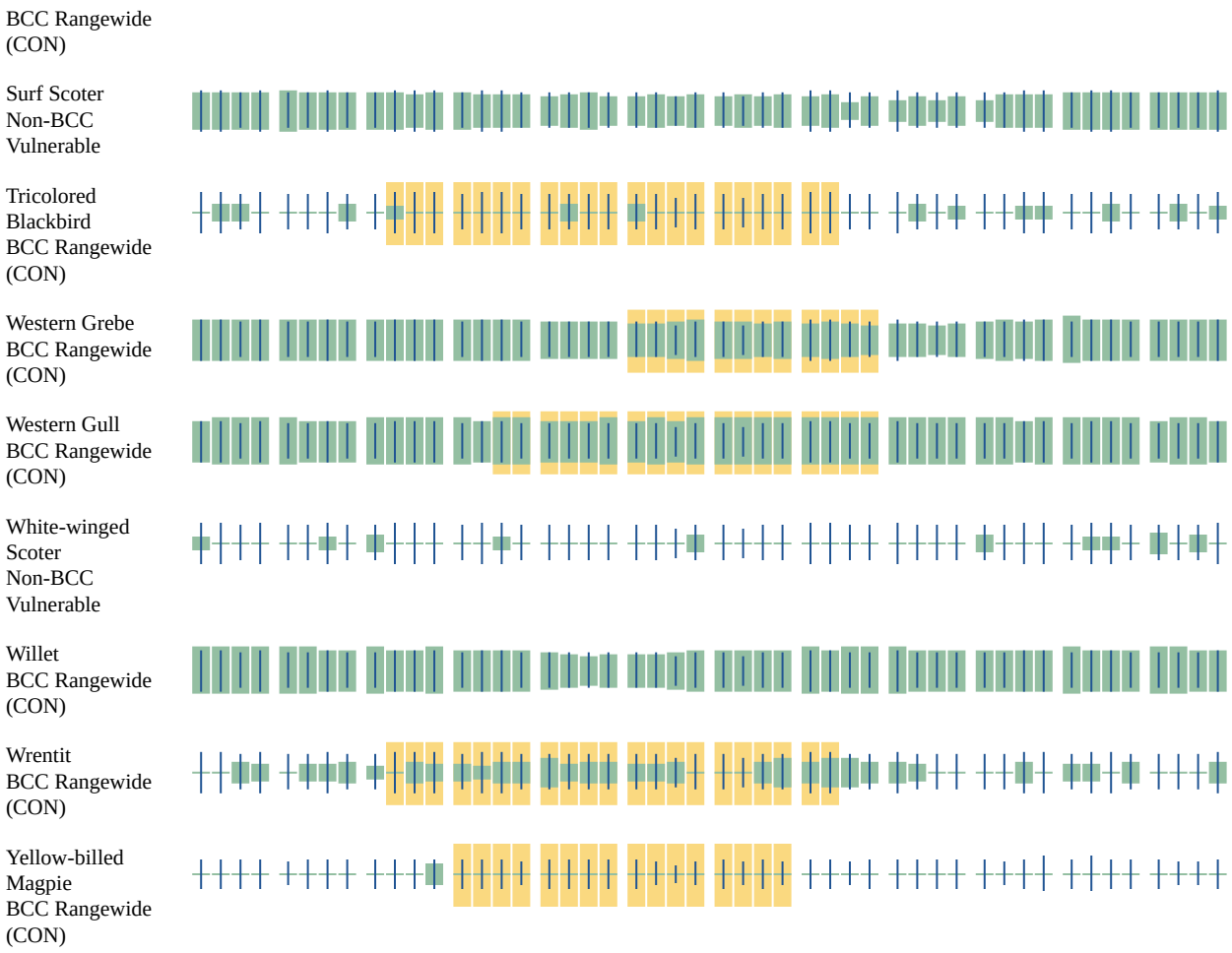
Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.




BCC Rangewide (CON)
Brandt's Cormorant BCC Rangewide (CON)
Brown Pelican Non-BCC Vulnerable
Bullock's Oriole BCC - BCR
California Gull BCC Rangewide (CON)
SPECIES
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
California Thrasher BCC Rangewide (CON)
Clark's Grebe BCC Rangewide (CON)
Common Loon Non-BCC Vulnerable
Common Murre Non-BCC Vulnerable
Common Yellowthroat BCC - BCR
Double-crested Cormorant Non-BCC Vulnerable
Elegant Tern BCC - BCR
Golden Eagle Non-BCC Vulnerable
Heermann's Gull BCC Rangewide (CON)
Lawrence's Goldfinch BCC Rangewide (CON)
Long-eared Owl


BCC Rangewide (CON)
Long-tailed Duck
Non-BCC Vulnerable
SPECIES
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
Marbled Godwit
BCC Rangewide (CON)
Northern Harrier
BCC - BCR
Nuttall's Woodpecker
BCC - BCR
Oak Titmouse
BCC Rangewide (CON)
Olive-sided Flycatcher
BCC Rangewide (CON)
Red Knot
BCC Rangewide (CON)
Red Phalarope
Non-BCC Vulnerable
Red-breasted Merganser
Non-BCC Vulnerable
Red-necked Phalarope
Non-BCC Vulnerable
Red-throated Loon
Non-BCC Vulnerable
Ring-billed Gull
Non-BCC Vulnerable
Santa Barbara Song Sparrow
BCC - BCR
SPECIES
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
Short-billed Dowitcher



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPAC USER CONTACT INFORMATION

Agency: Brisbane city
Name: Brian Pittman
Address: 775 Baywood Dr., Suite 100
City: Petaluma
State: CA
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LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (San Francisco South (3712264))

Brisbane Baylands Specific Plan EIR

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Acipenser medirostris pop. 1 green sturgeon - southern DPS	G2T1 S1	Threatened None	AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern IUCN_EN-Endangered	0 0	14 S:1	0	1	0	0	0	0	0	1	1	0	0
Actinemys marmorata northwestern pond turtle	G2 SNR	Proposed Threatened None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	17 40	1082 S:3	0	1	2	0	0	0	2	1	3	0	0
Adela oplerella Opler's longhorn moth	G2 S2	None None		100 100	14 S:1	0	0	0	0	0	1	1	0	1	0	0
Allium peninsulare var. franciscanum Franciscan onion	G4G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		25 S:1	0	0	0	0	0	1	1	0	1	0	0
Amsinckia lunaris bent-flowered fiddleneck	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCBG-UC Botanical Garden at Berkeley SB_UCSC-UC Santa Cruz		93 S:1	0	0	0	0	0	1	1	0	1	0	0
Aphyllon robbinsii Robbins' broomrape	G1 S1	None None	Rare Plant Rank - 1B.1		13 S:1	0	0	0	0	1	0	1	0	0	1	0
Arctostaphylos franciscana Franciscan manzanita	GHC S1	Endangered None	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	700 700	4 S:1	0	0	0	0	1	0	1	0	0	0	1
Arctostaphylos imbricata San Bruno Mountain manzanita	G1 S1	None Endangered	Rare Plant Rank - 1B.1	900 1,000	2 S:2	1	0	0	0	0	1	1	1	2	0	0
Arctostaphylos montana ssp. ravenii Presidio manzanita	G3T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1	700 700	7 S:1	0	0	0	0	1	0	1	0	0	0	1

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Arctostaphylos montaraensis Montara manzanita	G1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	900 900	4 S:1	0	0	0	1	0	0	0	1	1	0	0
Arctostaphylos pacifica Pacific manzanita	G1 S1	None Endangered	Rare Plant Rank - 1B.1 SB_UCSC-UC Santa Cruz	1,045 1,045	1 S:1	0	0	1	0	0	0	0	1	1	0	0
Astragalus tener var. tener alkali milk-vetch	G2T1 S1	None None	Rare Plant Rank - 1B.2 SB_UCSC-UC Santa Cruz	50 50	65 S:1	0	0	0	0	1	0	1	0	0	1	0
Banksula incredula incredible harvestman	G1 S1	None None		1,110 1,110	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Bombus caliginosus obscure bumble bee	G2G3 S1S2	None None	IUCN_VU-Vulnerable	30 400	181 S:2	0	0	0	0	0	2	2	0	2	0	0
Bombus occidentalis western bumble bee	G3 S1	None Candidate Endangered	IUCN_VU-Vulnerable USFS_S-Sensitive	40 800	306 S:6	0	0	0	0	0	6	6	0	6	0	0
Caecidotea tomalensis Tomales isopod	G2 S2S3	None None		50 2,100	6 S:2	0	0	1	1	0	0	2	0	2	0	0
Callophrys mossii bayensis San Bruno elfin butterfly	G4T2 S2	Endangered None		607 800	6 S:2	0	1	0	0	0	1	1	1	2	0	0
Carex comosa bristly sedge	G5 S2	None None	Rare Plant Rank - 2B.1 IUCN_LC-Least Concern	0 0	31 S:1	0	0	0	0	1	0	1	0	0	0	1
Centromadia parryi ssp. parryi pappose tarplant	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	10 10	39 S:1	0	0	0	0	0	1	1	0	1	0	0
Chorizanthe cuspidata var. cuspidata San Francisco Bay spineflower	G2T1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	50 650	17 S:8	0	0	2	0	0	6	7	1	8	0	0
Chorizanthe robusta var. robusta robust spineflower	G2T1 S1	Endangered None	Rare Plant Rank - 1B.1	150 150	20 S:2	0	0	0	0	2	0	2	0	0	2	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Cicindela hirticollis gravida sandy beach tiger beetle	G5T2 S2	None None		10 10	34 S:1	0	0	0	0	1	0	1	0	0	0	1
Cirsium andrewsii Franciscan thistle	G3 S3	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	100 100	31 S:1	0	0	0	0	1	0	1	0	0	1	0
Cirsium occidentale var. compactum compact cobwebby thistle	G3G4T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	100 100	30 S:1	0	0	0	0	1	0	1	0	0	1	0
Collinsia corymbosa round-headed collinsia	G1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	25 25	13 S:1	0	0	0	0	0	1	1	0	1	0	0
Collinsia multicolor San Francisco collinsia	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz	100 650	36 S:7	0	1	0	0	0	6	6	1	7	0	0
Corynorhinus townsendii Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	700 700	635 S:1	0	0	0	0	0	1	0	1	1	0	0
Dufourea stagei Stage's dufourine bee	G1G2 S1	None None		700 700	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Erethizon dorsatum North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	509 509	523 S:1	0	0	0	0	0	1	1	0	1	0	0
Eucyclogobius newberryi tidewater goby	G3 S3	Endangered None	AFS_EN-Endangered CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	20 20	127 S:1	0	0	0	0	1	0	1	0	0	0	1
Euphydryas editha bayensis Bay checkerspot butterfly	G4G5T1 S3	Threatened None		100 1,000	30 S:3	0	0	0	0	3	0	3	0	0	0	3

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Falco peregrinus anatum American peregrine falcon	G4T4 S3S4	Delisted Delisted	CDF_S-Sensitive	10 10	75 S:1	0	1	0	0	0	0	0	1	1	0	0
Fritillaria liliacea fragrant fritillary	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	300 300	82 S:2	0	0	0	0	1	1	2	0	1	0	1
Geothlypis trichas sinuosa saltmarsh common yellowthroat	G5T3 S3	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	30 300	114 S:2	0	0	0	0	0	2	2	0	2	0	0
Gilia capitata ssp. chamissonis blue coast gilia	G5T2 S2	None None	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	10 650	37 S:4	0	1	0	0	0	3	3	1	4	0	0
Gilia millefoliata dark-eyed gilia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		54 S:2	0	0	0	0	1	1	2	0	1	0	1
Grindelia hirsutula var. maritima San Francisco gumplant	G5T1Q S1	None None	Rare Plant Rank - 3.2 SB_UCSC-UC Santa Cruz	50 1,000	15 S:8	0	0	1	1	1	5	8	0	7	0	1
Helianthella castanea Diablo helianthella	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	700 700	107 S:2	0	1	0	0	1	0	1	1	1	1	0
Hemizonia congesta ssp. congesta congested-headed hayfield tarplant	G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_UCBG-UC Botanical Garden at Berkeley		52 S:2	0	0	0	0	1	1	2	0	1	1	0
Hesperevax sparsiflora var. brevifolia short-leaved evax	G4T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	500 500	72 S:1	0	0	0	0	1	0	1	0	0	1	0
Heteranthera dubia water star-grass	G5 S2	None None	Rare Plant Rank - 2B.2 IUCN_LC-Least Concern		9 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Horkelia cuneata var. sericea Kellogg's horkelia	G4T1? S1?	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz USFS_S-Sensitive	150 600	58 S:3	0	0	0	0	1	2	3	0	2	1	0
Horkelia marinensis Point Reyes horkelia	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz		36 S:1	0	0	0	0	0	1	1	0	1	0	0
Hydroporus leechi Leech's skyline diving beetle	G3 S2S3	None None		680 680	13 S:1	0	0	0	0	0	1	1	0	0	1	0
Icaricia icarioides missionensis Mission blue butterfly	G5T2 S2	Endangered None		200 750	14 S:12	0	2	2	0	0	8	11	1	12	0	0
Icaricia icarioides pheres Pheres blue butterfly	G5TX SX	None None		190 190	1 S:1	0	0	0	0	1	0	1	0	0	0	1
Ischnura gemina San Francisco forktail damselfly	G2 S2	None None	IUCN_EN-Endangered	25 540	7 S:2	0	0	0	0	1	1	2	0	1	1	0
Lasiurus cinereus hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern	20 20	238 S:4	0	0	0	0	0	4	4	0	4	0	0
Laterallus jamaicensis coturniculus California black rail	G3T1 S2	None Threatened	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_EN-Endangered	25 25	304 S:1	0	0	0	0	0	1	1	0	1	0	0
Layia carnosa beach layia	G2 S2	Threatened Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden	40 40	25 S:1	0	0	0	0	1	0	1	0	0	0	1

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Leptosiphon rosaceus rose leptosiphon	G1 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		31 S:1	0	0	0	0	1	0	1	0	0	1	0
Lessingia germanorum San Francisco lessingia	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1	150 500	5 S:2	0	0	1	0	1	0	2	0	1	1	0
Lichnanthe ursina bumblebee scarab beetle	G2 S2	None None		15 20	8 S:2	0	0	0	0	0	2	2	0	2	0	0
Malacothamnus arcuatus var. arcuatus arcuate bushmallow	G2Q S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	700 700	34 S:1	0	0	0	0	0	1	1	0	1	0	0
Melospiza melodia pusillula Alameda song sparrow	G5T2T3 S2	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	10 25	38 S:2	0	0	0	0	0	2	2	0	2	0	0
Monardella sinuata ssp. nigrescens northern curly-leaved monardella	G3T2 S2	None None	Rare Plant Rank - 1B.2 SB_SBBG-Santa Barbara Botanic Garden		25 S:1	0	0	0	0	1	0	1	0	0	1	0
Mylopharodon conocephalus hardhead	G3 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	20 20	33 S:1	0	0	0	0	0	1	1	0	1	0	0
Nannopterum auritum double-crested cormorant	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	45 75	39 S:2	0	0	2	0	0	0	2	0	2	0	0
Pentachaeta bellidiflora white-rayed pentachaeta	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	500 500	14 S:1	0	0	0	0	1	0	1	0	0	1	0
Plagiobothrys chorisianus var. chorisianus Choris' popcornflower	G3T1Q S1	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCSC-UC Santa Cruz	1,150 1,150	42 S:1	0	0	0	0	0	1	1	0	1	0	0
Pomatiopsis californica Pacific walker	G1 S1	None None	IUCN_DD-Data Deficient	228 228	4 S:1	0	0	0	0	1	0	1	0	0	0	1

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Rallus obsoletus obsoletus California Ridgway's rail	G3T1 S2	Endangered Endangered	CDFW_FP-Fully Protected	0 7	99 S:3	0	0	2	0	0	1	1	2	3	0	0
Rana draytonii California red-legged frog	G2G3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	12 600	1768 S:7	2	1	2	0	1	1	3	4	6	1	0
Riparia riparia bank swallow	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	10 40	299 S:3	0	1	0	0	0	2	2	1	3	0	0
Sanicula maritima adobe sanicle	G2 S2	None Rare	Rare Plant Rank - 1B.1 SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	250 250	17 S:1	0	0	0	0	1	0	1	0	0	0	1
Senecio aphanactis chaparral ragwort	G3 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_CRES-San Diego Zoo CRES Native Gene Seed Bank		98 S:1	0	0	0	0	0	1	1	0	1	0	0
Silene scouleri ssp. scouleri Scouler's catchfly	G5T4T5 S2S3	None None	Rare Plant Rank - 2B.2	780 1,000	23 S:7	0	0	0	0	0	7	6	1	7	0	0
Silene verecunda ssp. verecunda San Francisco campion	G5T1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz	25 1,200	20 S:5	0	0	0	0	2	3	3	2	3	2	0
Speyeria callippe callippe callippe silverspot butterfly	G5T1 S1	Endangered None		250 900	12 S:6	0	1	1	0	0	4	4	2	6	0	0
Spirinchus thaleichthys longfin smelt	G5 S1	Proposed Endangered Threatened	IUCN_LC-Least Concern	0 0	46 S:2	0	0	0	0	0	2	1	1	2	0	0
Suaeda californica California seablite	G1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	5 5	18 S:2	0	0	1	0	0	1	0	2	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Thamnophis sirtalis tetrataenia San Francisco gartersnake	G5T2Q S2	Endangered Endangered	CDFW_FP-Fully Protected	10 600	66 S:7	0	1	1	0	4	1	5	2	3	0	4
Trachusa gummifera San Francisco Bay Area leaf-cutter bee	G1 S1	None None		93 93	3 S:1	0	0	0	0	0	1	1	0	1	0	0
Trifolium amoenum two-fork clover	G1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley SB_USDA-US Dept of Agriculture		26 S:1	0	0	0	0	0	1	1	0	1	0	0
Triphysaria floribunda San Francisco owl's-clover	G2? S2?	None None	Rare Plant Rank - 1B.2	100 450	50 S:10	0	0	0	0	4	6	10	0	6	3	1
Triquetrella californica coastal triquetrella	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	400 1,200	13 S:2	0	0	0	0	0	2	0	2	2	0	0

CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

Search Results

50 matches found. Click on scientific name for details

Search Criteria: Quad is one of [**3712264**]

▲ SCIENTIFIC NAME	COMMON NAME	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK
Allium peninsulare var. *franciscanum*	Franciscan onion	None	None	G4G5T2	S2	1B.2
Amsinckia lunaris	bent-flowered fiddleneck	None	None	G3	S3	1B.2
Aphyllon robbinsii	Robbins' broomrape	None	None	G1	S1	1B.1
Arabis blepharophylla	coast rockcress	None	None	G4	S4	4.3
Arctostaphylos franciscana	Franciscan manzanita	FE	None	GHC	S1	1B.1
Arctostaphylos imbricata	San Bruno Mountain manzanita	None	CE	G1	S1	1B.1
Arctostaphylos montana ssp. *ravenii*	Presidio manzanita	FE	CE	G3T1	S1	1B.1
Arctostaphylos montaraensis	Montara manzanita	None	None	G1	S1	1B.2
Arctostaphylos pacifica	Pacific manzanita	None	CE	G1	S1	1B.1
Astragalus nuttallii var. *nuttallii*	ocean bluff milk-vetch	None	None	G4T4	S4	4.2
Astragalus tener var. *tener*	alkali milk-vetch	None	None	G2T1	S1	1B.2
Carex comosa	bristly sedge	None	None	G5	S2	2B.1
Centromadia parryi ssp. *parryi*	pappose tarplant	None	None	G3T2	S2	1B.2
Chorizanthe cuspidata var. *cuspidata*	San Francisco Bay spineflower	None	None	G2T1	S1	1B.2
Chorizanthe robusta var. *robusta*	robust spineflower	FE	None	G2T1	S1	1B.1
Cirsium andrewsii	Franciscan thistle	None	None	G3	S3	1B.2
Cirsium occidentale var. *compactum*	compact cobwebby thistle	None	None	G3G4T2	S2	1B.2
Collinsia corymbosa	round-headed collinsia	None	None	G1	S1	1B.2
Collinsia multicolor	San Francisco collinsia	None	None	G2	S2	1B.2
Erysimum franciscanum	San Francisco wallflower	None	None	G3	S3	4.2
Fritillaria liliacea	fragrant fritillary	None	None	G2	S2	1B.2
Gilia capitata ssp. *chamissonis*	blue coast gilia	None	None	G5T2	S2	1B.1
Gilia millefoliata	dark-eyed gilia	None	None	G2	S2	1B.2
Grindelia hirsutula var. *maritima*	San Francisco gumplant	None	None	G5T1Q	S1	3.2
Helianthella castanea	Diablo helianthella	None	None	G2	S2	1B.2
Hemizonia congesta ssp. *congesta*	congested-headed hayfield tarplant	None	None	G5T2	S2	1B.2
Hesperevax sparsiflora var. *brevifolia*	short-leaved evax	None	None	G4T3	S3	1B.2
Heteranthera dubia	water star-grass	None	None	G5	S2	2B.2
Horkelia cuneata var. *sericea*	Kellogg's horkelia	None	None	G4T1?	S1?	1B.1

Horkelia marinensis	Point Reyes horkelia	None	None	G2	S2	1B.2
Hosackia gracilis	harlequin lotus	None	None	G3G4	S3	4.2
Iris longipetala	coast iris	None	None	G3	S3	4.2
Layia carnosa	beach layia	FT	CE	G2	S2	1B.1
Leptosiphon ambiguus	serpentine leptosiphon	None	None	G4	S4	4.2
Leptosiphon grandiflorus	large-flowered leptosiphon	None	None	G3G4	S3S4	4.2
Leptosiphon latisectus	broad-lobed leptosiphon	None	None	G4	S4	4.3
Leptosiphon rosaceus	rose leptosiphon	None	None	G1	S1	1B.1
Lessingia germanorum	San Francisco lessingia	FE	CE	G1	S1	1B.1
Malacothamnus arcuatus var. *arcuatus*	arcuate bushmallow	None	None	G2Q	S2	1B.2
Monardella sinuata ssp. *nigrescens*	northern curly-leaved monardella	None	None	G3T2	S2	1B.2
Pentachaeta bellidiflora	white-rayed pentachaeta	FE	CE	G1	S1	1B.1
Plagiobothrys chorisianus var. *chorisianus*	Choris' popcornflower	None	None	G3T1Q	S1	1B.2
Sanicula maritima	adobe sanicle	None	CR	G2	S2	1B.1
Senecio aphanactis	chaparral ragwort	None	None	G3	S2	2B.2
Silene scouleri ssp. *scouleri*	Scouler's catchfly	None	None	G5T4T5	S2S3	2B.2
Silene verecunda ssp. *verecunda*	San Francisco campion	None	None	G5T1	S1	1B.2
Suaeda californica	California seablite	FE	None	G1	S1	1B.1
Trifolium amoenum	two-fork clover	FE	None	G1	S1	1B.1
Triphysaria floribunda	San Francisco owl's-clover	None	None	G2?	S2?	1B.2
Triquetrella californica	coastal triquetrella	None	None	G2	S2	1B.2

Showing 1 to 50 of 50 entries

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Appendix B

Butterfly Habitat Mapping and Restoration Opportunities at Icehouse Hill, Brisbane Baylands, Brisbane, CA, September 2023

Butterfly Habitat Mapping and Restoration Opportunities at Icehouse Hill, Brisbane Baylands, Brisbane, CA

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September 2023

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INTRODUCTION

Coast Ridge Ecology, LLC was contracted by ESA, Inc., to provide an assessment of Callippe silverspot, Mission blue, and bay checkerspot butterfly habitat including host and potential nectar plants at Icehouse Hill, Brisbane, California in 2023. This work was conducted to provide guidance for the land uses of this area in accordance with the Baylands Specific Plan.

BACKGROUND

Icehouse Hill is a natural promontory that is 24.3-acres in size and is part of the Brisbane Baylands. It is unique within the Brisbane Baylands in that it retains its natural soil and is characterized by a mix of native habitats including grasslands, coastal scrublands, and seasonal wetlands. Icehouse Hill is located east of San Bruno Mountain State and County Park which supports populations of four federally listed butterfly species; the Callippe silverspot (*Speyeria callippe callippe*), the bay checkerspot (*Euphydryas editha bayensis*), the San Bruno elfin (*Callophrys mossii bayensis*), and the Mission blue (*Icaricia icarioides missionensis*). Icehouse Hill has grassland habitat located on a hilltop area, and has potential to support the Callippe silverspot, Mission blue, and the Bay checkerspot butterfly, or at least the host and nectar plants that support these butterflies. Icehouse Hill is less than 200 feet in elevation. It does not provide suitable habitat for the San Bruno elfin butterfly, which occurs in the fog zone above approximately 500 feet elevation.

CALLIPPE SILVERSPOT

The Callippe silverspot is a federally endangered medium-sized butterfly in the brush-footed family (Nymphalidae). The species has a wingspan of about 2¼ inches (56 mm), and has a brown, orange, yellow, tan and black coloration with distinctive silver spots on the underside. The Callippe silverspot is a non-migratory univoltine butterfly that is dependent on one species of host plant, the California golden violet (*Viola pedunculata*).

Adults emerge in late spring to early summer from approximately mid-May to mid-July when male Callippes patrol hilltops searching for mates. Females oviposit eggs on or around the host plant, *V. pedunculata*. After approximately ten days, the larvae eclose from the egg and go into diapause until the following spring. Post diapause larvae feed on *V. pedunculata* in the early spring, followed by pupation and adults emerge around mid-May.

Icehouse hill is located within approximately 1000 feet of the San Bruno Mountain Habitat Conservation Plan area, which supports an extensive population of Callippe silverspot butterflies. In 2022, San Mateo County Parks reported 266 Callippe silverspots seen during their biannual transect surveys (San Mateo County Parks Department 2022). Although Icehouse Hill is separated from San Bruno Mountain by roads and commercial development, the distance between Icehouse Hill and San Bruno Mountain is well within the flight range of the Callippe silverspot, which has been found to move up to

approximately 0.75 miles between habitat patches (Thomas Reid Associates 1982), and can fly several hundred feet in a single traveling flight. Habitat for the Callippe in some of the surrounding HCP areas, such as the Carter/Martin area, have lost substantial amounts of Callippe habitat due to invasive weed infestations and brush succession over the past several decades (San Mateo County Parks Department 2008).

BAY CHECKERSPOT

The bay checkerspot butterfly is a federally threatened butterfly in the brush-footed family (Nymphalidae). They have distinctive checkerspot markings in red, yellow, black, and white. The host plants for the bay checkerspot include it's primary host plant California plantain (*Plantago erecta),* and secondary host plants include purple owl's clover *(Castilleja exserta spp. exerta)* and English plantain *(Plantago lanceolata).*

Adults emerge in late-February to early-May and have a flight period of 4-6 weeks. The average adult life span is ten days and female butterflies oviposit eggs around the base of their host plant. After hatching, approximately ten days later, the larvae will feed on their host plant for two or more weeks before entering diapause. The larvae often diapause under rocks or at the plant's base. Diapause ends with the onset of the rainy season, followed by pupation and finally adult emergence.

This species was extirpated from San Bruno Mountain in the 1980's, however the species was reintroduced to San Bruno Mountain, beginning in 2017. Since 2017 several thousand bay checkerspot larvae have been translocated to San Bruno Mountain from Coyote Ridge in Santa Clara County by Creekside Science biologists (San Mateo County Parks Department 2022). In 2021, there was estimated to be over 6,000 post-diapause bay checkerspot larvae on the mountain, and the larvae have been observed feeding on *P. lanceolata.*

MISSION BLUE

The Mission blue butterfly (*Icaricia icarioides missionensis*) is a small federally endangered butterfly in the gossamer-winged family (*Lycaenidae*). The dorsal side varies from brown to grey for females, and deep blue for males with black-edged wings and distinctive irregular black spots on the underside of the wings. The mission blue utilizes three host plants, all perennial lupines: *Lupinus albifrons var. collinus, L. formosus var. formosus*, and *Lupinus littoralis var. variicolor.*

Adult Mission blues fly between March and mid-June, typically. Males patrol lupine patches to find mates. After mating, the females oviposit on the leaves of their host plant. The eggs hatch in 4-10 days and the larvae feed in the host plant until they go into diapause at the base of the plant. The following spring the larvae end diapause and continue feeding. They will then pupate at the base of their host plant and emerge approximately 3 weeks later.

In 2021, 180 Mission blue butterflies were recorded during transect surveys on San Bruno Mountain (San Mateo County Parks Department 2022). Although Icehouse Hill is separated from San Bruno Mountain by roads and commercial development, the distance between Icehouse Hill and San Bruno Mountain is within the dispersal range of the Mission blue butterfly, which has been found to move up to approximately 0.25 miles between habitat patches (Thomas Reid Associates 1982). The species is likely to move further during multiple movements between habitat areas. Habitat for the Mission blue in some of the surrounding HCP areas, such as the Carter/Martin area, have lost substantial amounts of Mission blue habitat due to invasive weed infestations and brush succession over the past several decades (San Mateo County Parks Department 2008).

METHODS

Between April and June 2023, Coast Ridge Ecology biologists visited Icehouse Hill four times, April 6th, April 26th, June 14th, and June 29th, to map habitat types, butterfly host plants, butterfly nectar plants, and invasive species. CRE biologists also searched for the Callippe silverspot butterflies during their flight season on mapping surveys that were conducted during the Callippes flight season (i.e., during the June site visits). The mapping took place over the course of the flowering season to account for the differences in phenology between various plant species. Mapping was conducted using a combination of a Trimble GeoXT Submeter GPS unit and manual notes. Representative photos of the areas surveyed are shown at the end of this document.

RESULTS

Icehouse Hill supports a variety of vegetation communities. These include nonnative wild oat and native grasslands, coyote brush scrubs, broom patches, eucalyptus groves, and arroyo willow thickets. There are large areas of the site that have been heavily disturbed including a former shooting range, eroded cliffsides, and an active horse stables and corral.

The host plant species for Callippe silverspot and bay checkerspot were observed at Icehouse Hill (Figure 1). The Callippe silverspot host plant, *V. pedunculata* was observed to be abundant throughout the grassland habitat on the site. *P. erecta*, the host plant for bay checkerspot, was only found in one small patch at the southeastern corner of the site. However, *P. lanceolata* (which is a common weed) was found throughout the site. The host plants for the bay checkerspot butterfly are much more widespread than the butterfly, and though host plants for the species were detected at Icehouse Hill, it's unlikely that bay checkerspot butterflies are present at Icehouse Hill due to the large distance (over 1 mile) between Icehouse Hill and the areas where the species is present on San Bruno Mountain.

No host plants for Mission blue butterfly were observed at Icehouse Hill.

With the exception of non-native Italian thistle (*Carduus pycnocephalus*), nectar sources were sparse throughout the site (Figure 1). Other nectar sources on site included coast buckwheat (*Eriogonum latifolium*) and Himalayan blackberry (*Rubus discolor*). Potential nectar sources on site included: blue-eyed grass (*Sisyrinchium bellum*), suncups (*Taraxia ovata*), checkerbloom (*Sidalcea malviflora*), and mules-ears (*Wyethia* sp.). Many of the nectar plants were observed within the grassland habitat or in disturbed open areas.

The site was surveyed for Callippe silverspots by CRE biologists on June 14th and June 29th 2023 during suitable weather for Callippe flight, and no Callippes were observed. On the morning of the June 14th survey, just prior to the survey at Icehouse Hill, several Callippes were observed flying on the Northeast Ridge of San Bruno Mountain, approximately 2,000 feet west of Icehouse Hill. In addition, several common butterfly species were observed flying at Icehouse Hill, including anise swallowtail (*Papilio zelicaon*), acmon blue (*Plebejus acmon*), cabbage white (*Pieris rapae*), pale swallowtail (*Papilio eurymedon*), and variable checkerspot (*Euphydryas chalcedona*). While host plants for bay checkerspot were mapped on Icehouse Hill, no bay checkerspot butterflies were observed. No Mission blue butterflies were observed on the site; however, this was expected due to the lack of any of the Mission blue host plants detected on site.

Figure 1: Butterfly Host and Nectar Plants at Icehouse Hill

DISCUSSION

CALLIPPE SILVERSPOT

The survey results showed that Icehouse hill has a high density of host plants for the Callippe silverspot, however no Callippe silverspots were observed during surveys for the species during the 2023 flight season. Icehouse Hill appears to have the potential to be excellent habitat for the callippe; with hilltop habitat and an abundance of *Viola pedunculata*, and the lack of observations of Callippes was somewhat surprising due to these critical habitat components being present. However, Icehouse Hill has somewhat limited value for Callippe due to a variety of factors. Icehouse Hill is partially isolated from San Bruno Mountain and areas in between occupied Callippe habitat on the Northeast Ridge and Icehouse Hill that once supported Callippes, such as the western-most slopes of the Northeast Ridge and HCP administrative parcel 1-05[1], have declined in habitat value over time due to development and weed infestations and these areas have few (if any) Callippe host plants still present as of 2023.

Icehouse Hill is within approximately 2000 feet of occupied Callippe habitat on the Northeast Ridge, and this distance is well within the flight range of the species, as Callippes can fly several hundred feet in a single traveling flight. However, the distance combined with the relatively small habitat on Icehouse Hill (approximately 2.5 acres of suitable grassland habitat) likely reduces the potential for Callippes to reach Icehouse Hill.

Another limiting factor for Callippes may be the scarcity of nectar plants. Icehouse Hill does not have an abundance of nectar plants (especially native nectar plants). One nectar plant species, Italian thistle, was found to be relatively abundant. Although it is considered invasive, many butterflies, including Callippes utilize Italian thistle as a nectar source. Italian thistle typically blooms during the flight period of the Callippe but may in some cases bloom earlier in the flight season and may not be available during the later portion of the flight season.

Nectar source availability has been shown to have direct effects on butterfly population numbers. A study of the endangered Fender's blue butterfly (*Icaricia icarioides fenderi*) in Oregon, suggests that butterfly population size is strongly associated with nectar resource availability (Schultz et al 1999), and a laboratory study of common fritillary (*S. mormonia*) showed that honey water intake was directly correlated to daily egg production and life span of the butterfly (Boggs 1993). In addition, a study conducted by CRE on Callippe habitat near Sears Point on Sonoma Land Trust property in 2021, revealed that though Callippe host plants were abundant and widespread, Callippe observations were extremely low, with the likely cause being either the scarcity of nectar

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[1] *San Bruno Mountain HCP, Volume II, administrative parcel 1-05, parcel Y (pages 42 – 47e) https://www.smcgov.org/parks/san-bruno-mountain-habitat-conservation-plan*

plants and/or impacts to Callippe larvae/pupae from intensive grazing (i.e., trampling impacts).

GRAZING

Grazing can have both positive and negative impacts on a grassland ecosystem. The timing, frequency, and intensity of grazing affect soil structure, thatch/residual dry matter (RDM), and plant species distribution (Fleischner 1994).

The positive effects of grazing include removing thatch build-up, reducing non-native grasses, preventing shrub encroachment, and creating openings for low-growing native vegetation such as *V. pedunculata* to germinate and spread. Overgrazing can alternatively have negative impacts on butterfly habitats. Negative effects include soil compaction, erosion, and degradation of native butterfly host and nectar plants through overgrazing of plants and trampling of butterfly larvae and pupae.

Icehouse Hill has been grazed by horses for several decades, and horse stables and a corral currently exist on the northwest portion of the site. The level of grazing on Icehouse Hill (i.e., number of horses, timing, and duration of grazing) is unknown. The hill currently supports a large patch of *V. pedunculata*, and the presence of such a large patch is likely due to consistent grazing which prevents the Viola from being overtaken by weedy nonnative grasses and forbs that proliferate in the absence of grazing. While grazing is benefiting the host plant for the Callippe, it's possible that the current level of grazing may be impacting the survival rate of Callippe due to trampling of the pupae and larvae in the duff below the plants. Similarly, potential nectar plants may be overgrazed resulting in few available nectar sources for Callippes during the flight season.

An example of a successful grazing management program for the bay checkerspot butterfly that utilizes a seasonal grazing program has been documented at Kirby Canyon Conservation Area in southern Santa Clara County. The grazing program has been successful in maintaining relatively low annual grass vegetation heights and low residual dry matter levels and this has been shown to benefit the bay checkerspot butterflies' host plants (Weiss et al 2007). A study of three different grazing regimes (ungrazed, winter/spring, and summer/ fall grazing) conducted at Kirby Canyon showed that grazing had a positive effect on the butterfly host plants and nectar sources, and decreased thatch build-up. In the study, the ungrazed sample plots resulted in lower percent cover of host plants and nectar plants and higher percent cover of non-native grasses. The sample plots with seasonal grazing regimes consisted of winter/spring grazing versus summer/fall grazing. Results varied among the two seasonal grazing regimes throughout the three-year study. For example, the bay checkerspot host plant, *P. erecta*, had a higher percent cover in 2005 with summer/fall grazing versus a higher percent cover in 2007 with winter/ spring grazing (Weiss et al 2007). The varied vegetative responses were suggested to be related to annual precipitation; *P. erecta* increased in percent cover as a result of summer/ fall grazing in the wetter year of 2005 as well as from the winter/ spring grazing in the dryer year of 2007. Due to the variability

year to year, the report concluded that continuous monitoring and modifications of grazing regimes were advised to maintain a healthy bay checkerspot butterfly population.

INVASIVE SPECIES AND SCRUB SUCCESSION

Native grasslands and butterfly host and nectar plants are particularly vulnerable to being overtaken by invasive weeds and native brush. Invasive species such as: French broom (*Genista monspessulana*), wild fennel (*Foeniculum vulgare*), and field mustard (*Hirschfeldia incana*) were observed throughout Icehouse Hill. These species should be managed in accordance with their ability to overtake the grassland butterfly habitat. Table 1 shows a full list of the invasive species observed at Icehouse Hill as well as their priority for management based upon the California Invasive Plant Council Inventory (https://www.cal-ipc.org/), and are labeled as high, moderate, and low priority.

Table 1: Invasive Plant Species at Icehouse Hill.

Common Name	Scientific Name	CAL-IPC Inventory Rating	Management Priority
Blue gum eucalyptus	*Eucalyptus globulus*	Limited	Low
Cotoneaster	*Cotoneaster* sp.	Moderate	Moderate
English plantain	*Plantago lanceolata*	Limited	Low
French broom	*Genista monspessulana*	High	High
Himalayan blackberry	*Rubus discolor*	High	Low*
Italian thistle	*Carduus pycnocephalus*	Moderate	Low*
Red valerian	*Centranthus ruber*	N/A	Low
Stinkwort	*Dittrichia graveolens*	Moderate	Moderate
St. John's wort	*Hypericum perforatum*	Limited	Low
Field mustard	*Hirschfeldia incana*	Moderate	Moderate
Sydney golden wattle	*Acacia longifolia*	Watch	Low
Wild fennel	*Foeniculum vulgare*	Moderate	Moderate

*Species has been given low priority due to being a potential nectar source.

Shrub (aka scrub) vegetation can become a threat to sensitive butterfly species when it begins to overtake host and nectar plants utilized by those species. The phenomenon of shrub encroachment on grasslands has been documented worldwide at increasing rates (Briske et al. 2007). Without ongoing management, the shrub habitat at Icehouse Hill is likely to expand and overtake butterfly habitat within the grasslands. Grazing has likely helped to maintain the existing grassland areas from being overtaken by scrub.

Shrublands must be managed with this in mind, particularly in areas where shrubland meets the native grasslands. Icehouse Hill has shrublands of various compositions that can be categorized into two types: densely mixed French broom and coyote brush (*Baccharis pilularis*); and sparse French broom stands with small patches of grasslands and bare ground (Figure 2. Areas for Restoration at Icehouse Hill). These smaller grassland areas within the scrub could be expanded to provide more butterfly habitat through the consistent removal of native and non-native brush species. Larger, dense infestations of French broom may be targeted for removal as well to prevent this species from encroaching into the grassland habitat areas. These dense shrub areas may not be suitable for butterfly host plants, but native nectar plants could be established within the cleared areas.

RECREATIONAL TRAIL

Figure 2 shows a potential location for placement of a recreational hiking trail. The placement is based on avoidance of the host plant habitat for the Callippe, and does not take into any other considerations for trail construction. Placement of the trail through areas where the Callippes host plant, Viola pedunculata is present, may require a recovery (take) permit through section 7 or section 10 from the USFWS for the Callippe silverspot butterfly.

Callippe silverspot, bay checkerspot, and Mission blue are all reliant on native grassland that support their host plants and nectar sources. Therefore, trails should be placed along the boundaries, but not within, the grassland areas that support host plants. This placement will also allow trail users a view of the butterflies and/or their habitat with minimal impact. Trails could also be placed through shrublands currently dominated by French broom. Once the French broom is cleared, restoration of native plants could provide trail users with nice opportunities to view butterflies, assuming that enough habitat can be restored, enhanced, and/or created that would provide sufficient habitat to attract and support the butterfly species.

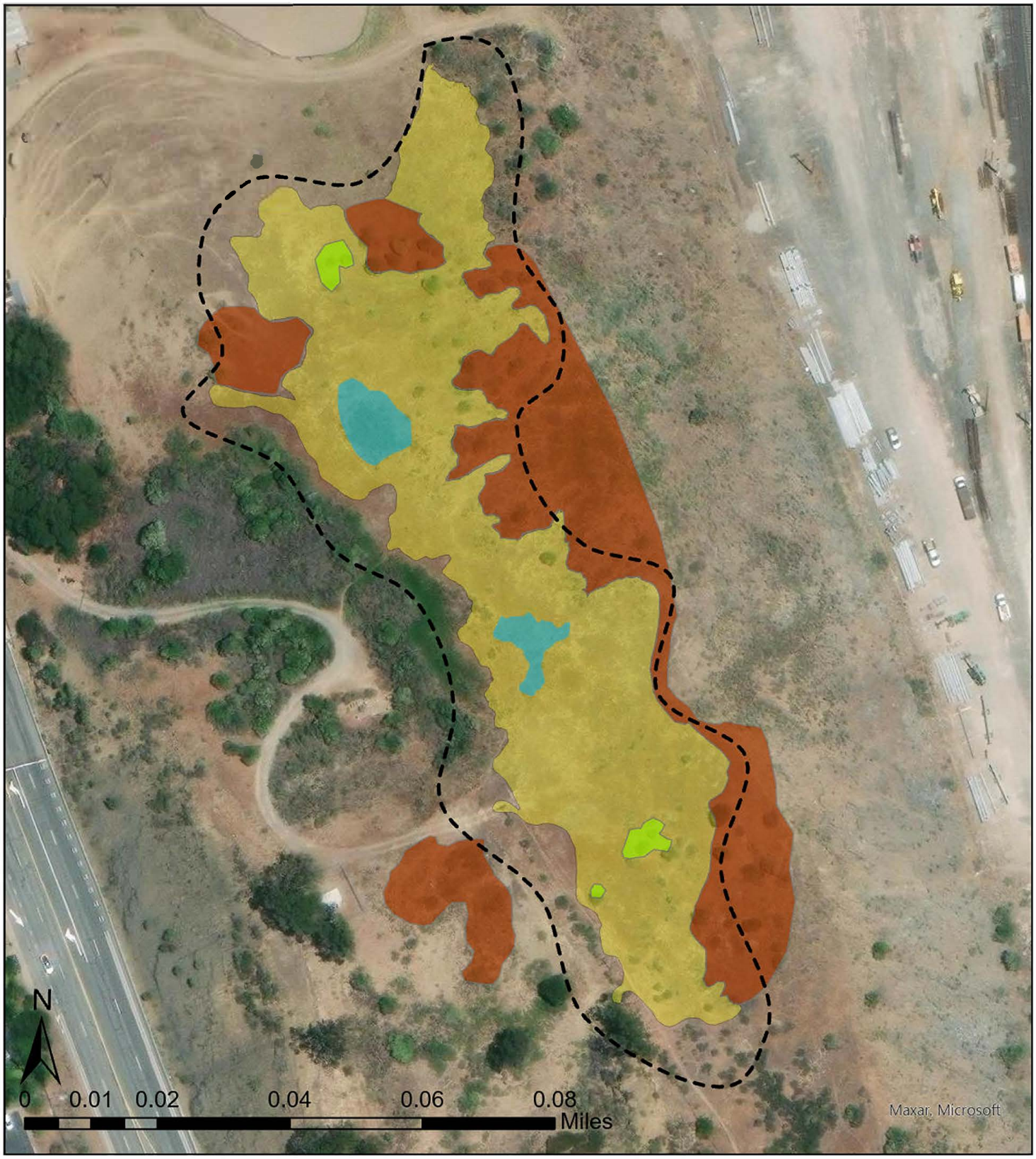

Figure 2: Areas for Restoration at Icehouse Hill

RECOMMENDATIONS

1. Plant additional nectar sources for Callippe silverspot and other butterfly species. Species to plant include coast buckwheat (*Eriogonum latifolium),* coyote mint (*Monardella villosa*), and California buckeye trees (*Aesculus californica*).

2. Avoid year-round heavy grazing, especially in drier years, to help maintain host and nectar plant resources for butterflies. Ideally, grazing would not be conducted past April as it may lead to overgrazing of host and nectar sources and result in excessive trampling of butterfly pupae and larvae. This would only be a general guideline however, as monitoring and modifications of grazing regime would likely be necessary to optimally manage the butterfly habitat at Icehouse Hill.

3. Prioritize removal of invasive plant species, especially French broom. Target other invasive weeds within the grassland areas and minimize removal of the Italian thistle until native nectar sources are more established, because it may be serving as important nectar sources for Callippe silverspot butterflies.

4. Remove native and nonnative shrubs encroaching upon the grasslands.

5. Restore grassland habitat using grass and herbaceous wildflower species native to San Bruno Mountain, within areas cleared of shrub cover. Native grassland species present within occupied Callippe habitat on the Northeast Ridge of San Bruno Mountain would be a suitable reference area to use for grassland habitat restoration.

Photos

Photo 1. Dense patch of Viola pedunculata near the summit of Icehouse Hill. Photo date: 04-06-2023. View looking northwest.

Photo 2. Scattered brush within the grasslands of Icehouse Hill. Photo date: 04-06-2023. View looking southeast.


Photo 3. Patch of Plantago erecta on Icehouse. Hill. Photo date: 04-06-2023


Photo 4. Horse grazing on Icehouse Hill. Photo date: 04-06-2023

Photo 5. Dense brush downslope of Icehouse Hill. Photo date: 04-06-2023 View looking north.

Photo 6. Shallow ponded area on north side of Icehouse Hill, within eroded gully. Photo date: 04-06-2023. View looking north.

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Appendix C1

Brisbane Baylands Wetlands Delineation Information (Biohabitats 2023)

January 2023

THE BAYLANDS
WETLAND DELINEATION REPORT

Biohabitats
CASCADIA BIOREGION

Prepared for

THE BAY LANDS

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1 Introduction

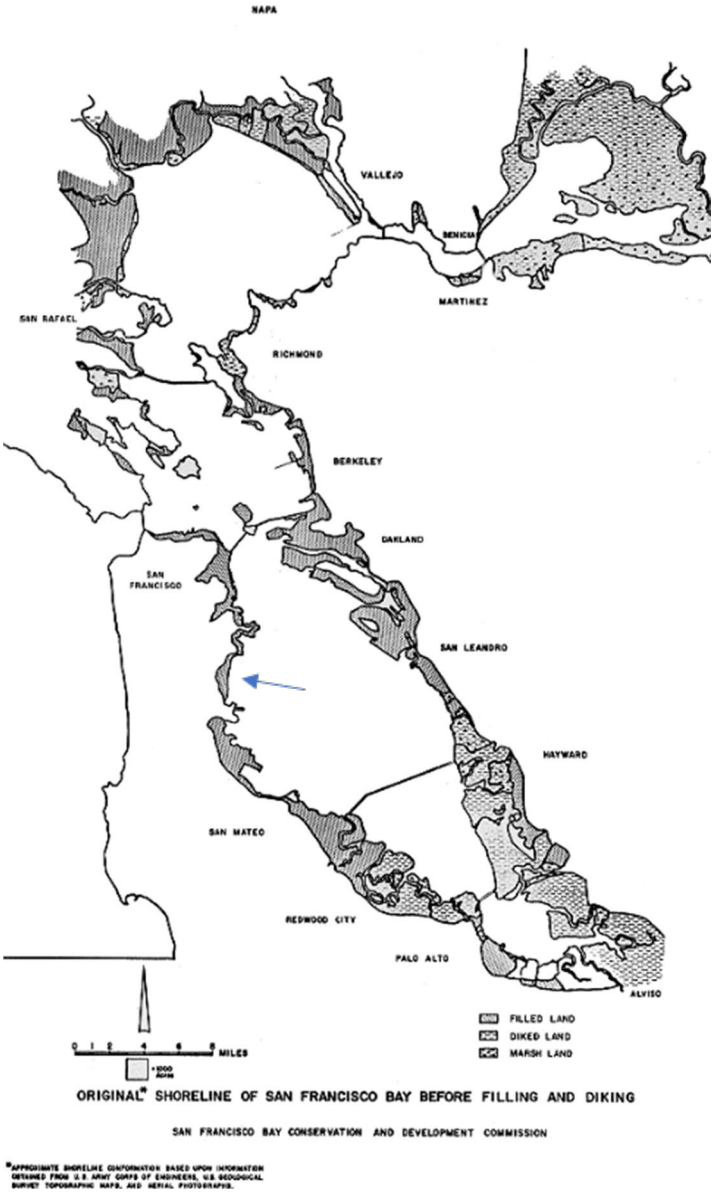
Baylands Development, Inc. (BDI) plans to remediate and develop The Baylands in San Mateo County, CA. BDI has worked on the property for several decades, including environmental studies and consultation with state and federal agencies and the City and community of Brisbane. The purpose of this report is to summarize the findings of the 2019-2020 wetland delineation at The Baylands. Chapter 9 of The Baylands Specific Plan (2023) describes the timing for completing the remediation and closure activities.

The completed Baylands is a mixed-use development with housing, commercial, office, and industrial areas, including all supporting infrastructure and the development of open spaces. BDI aspires to a high standard for sustainable design and performance integrated into a dynamic and sustainable community.

2 Brief History of the Baylands

For context, a brief history is provided below, emphasizing regulatory events of the last several decades. The following timeline of events related to the property's environmental conditions is summarized below, outlining significant events that preceded this wetland report.

- The Baylands was part of the San Francisco Bay marsh and open water shoreline before the industrialization and construction of the City of San Francisco (see map at right). Like many others around the bay, the Specific Plan area was filled to dry up the marsh to promote development.
- 1865: Southern Pacific (SP) Railroad accelerated the fill of the original marsh and mudflats. The 180-acre SP Yard, one of the country's last SP steam train yards, was built in the early 1900s and served as a locomotive shop for SP and its subsidiaries. Through the era of diesel locomotives, the yard remained a



The approximate original shoreline of San Francisco Bay surrounds the white areas. The Baylands, indicated by the blue arrow, sits on fill (gray). From San Francisco Bay Conservation & Development Commission (197x) via Berkeley Library.

significant classification and maintenance yard for San Francisco. It was closed by 1980. Caltrain currently operates the adjacent railroad line.

- Until 1967, the 360-acre Brisbane Landfill received fill material from construction and household garbage from San Francisco.
- 1989: Sunquest Properties purchased the 540-acre property.
- 1985 (December 17): the California Department of Health Services issued an Order to Post and Fence in response to a report of the on-site release of hazardous substances. The Railyard is contaminated with bunker C oil, lead and other heavy metals, and VOCs.
- 1988 (December 14): the California Department of Toxic Substances Control (DTSC) issued a series of Remedial Action Orders to clean up the railyard.
- 1995 (August 22): DTSC transferred oversight to the California Regional Water Quality Control Board (RWQCB). The orders requested that the owner conducted remediation.
- 2001 (April 26): RWQCB issued a Waste Discharge Requirements and Cleanup and Abatement Order to close the Brisbane Class III Landfill.
- 2002: RWQCB approved the remedial action plan. Since the action involved capping the contaminated soil and impacting potential jurisdictional wetlands, it was contingent on clearance by the US Army Corps of Engineers (USACE).
- 2003 (May 27-30): Burns & McDonnell (B&M) delineated twenty-seven jurisdictional wetlands that included one tidally influenced drainage (Visitacion Creek, or the central drainage channel) and one tidal water body (Brisbane Lagoon). The total wetland area was 7.09 acres.
- 2004: B&M developed a Wetland Mitigation Plan. Remediation would impact ~1.7 acres of saltwater marsh wetlands, 1.4 acres of freshwater marsh wetlands, and 2200 linear feet of tidal waters along the central drainage channel. Two types of native wetland habitat were proposed to offset impacts to jurisdictional wetlands, i.e., one acre of saltwater marsh wetlands and three acres of freshwater marsh wetlands would be created along the existing central drainage channel.
- 2004: USACE authorized NWP 38 for Cleanup of Hazardous and Toxic Waste. Mitigation was completed per the "Brisbane Baylands Wetland Mitigation Plan" (B&M, 2004). Difficulties obtaining approval from the City of Brisbane delayed construction.
- 2006: USACE reissued NWP 38.
- 2008: the USACE Approved Jurisdictional Determination of wetlands delineated in 2003 expired.
- 2009: B&M submitted a Revised Wetland Delineation.
- 2010: USACE and B&M toured the Specific Plan area.
- 2011: B&M presented an addendum to the April 2009 wetland report modifying the size and shape of W-22 and removing W-25, W-26, and W-27 from the determination.

- 2019 (September 12): BDI and Biohabitats attended an interagency meeting in San Francisco, hosted by USACE and the Fish & Wildlife Service (USFWS). RWQCB, the San Francisco Bay Conservation and Development Commission (BCDC), California State Lands Commission, and the San Mateo County Parks Department attended by phone. It was determined that a new wetland delineation and a Biological Assessment should be conducted.
- 2019 (Nov 18-22, Dec 2-6), 2020 (April 28- May 1, July 21-22, and August 25-26) Biohabitats conducts a wetland delineation in the Specific Plan area.
- 2020 (Nov) Biohabitats, on behalf of BDI, submitted a Preliminary Jurisdictional Determination (PJD) request to the USACE.
- 2021 (Feb 23 – 24) USACE Project Manager Sarah Firestone visited and reviewed the Brisbane Area with BDI representatives (Howard Pearce, Anthony Chen, Fred Daven), Holland & Knight, LLP (Nicholas Targ), and Biohabitats (Susan Sherrod and Juan Rovalo). Each wetland feature was visited, and the validity of the geometry was analyzed against field indicators; adjustments were discussed and registered on the field using submeter GPS handheld equipment.
- USACE revised the adjustments and gave the directive to Biohabitats to produce the final delineation maps to be used in the Preliminary Jurisdictional Determination (PJD).

- On July 29, 2021, the USACE provided the PJD to Biohabitats and BDI.

This document presents the final wetland delineation data as approved in the PJD (See Appendix 4 USACE Preliminary Jurisdictional Determination Maps).

3 Wetland Delineation Methods

3.1 Location

The Baylands includes the former Southern Pacific Railroad Yard (railyard, 180 ac) and former Brisbane Landfill (landfill, 360 ac). Most of the property is in San Mateo County; the northernmost 5% (approx.) is in San Francisco County (Figure 1).

3.2 Desktop Data Collection

Information sources reviewed included the following:

- U.S. Geological Survey (USGS) Geological Map
- USFWS National Wetland Inventory (NWI) (Appendix 1)
- California Aquatic Resource Inventory (CARI) (Appendix 2)
- Natural Resources Conservation Service (NRCS) Soil Web Survey (Appendix 3)
- National Oceanic and Atmospheric Administration (NOAA) Tidal Data
- Google Earth Aerial photography and including historical photos
- Updated Baylands Wetland Delineation Report (2008) and Addendum (2011) by Burns & McDonnell.

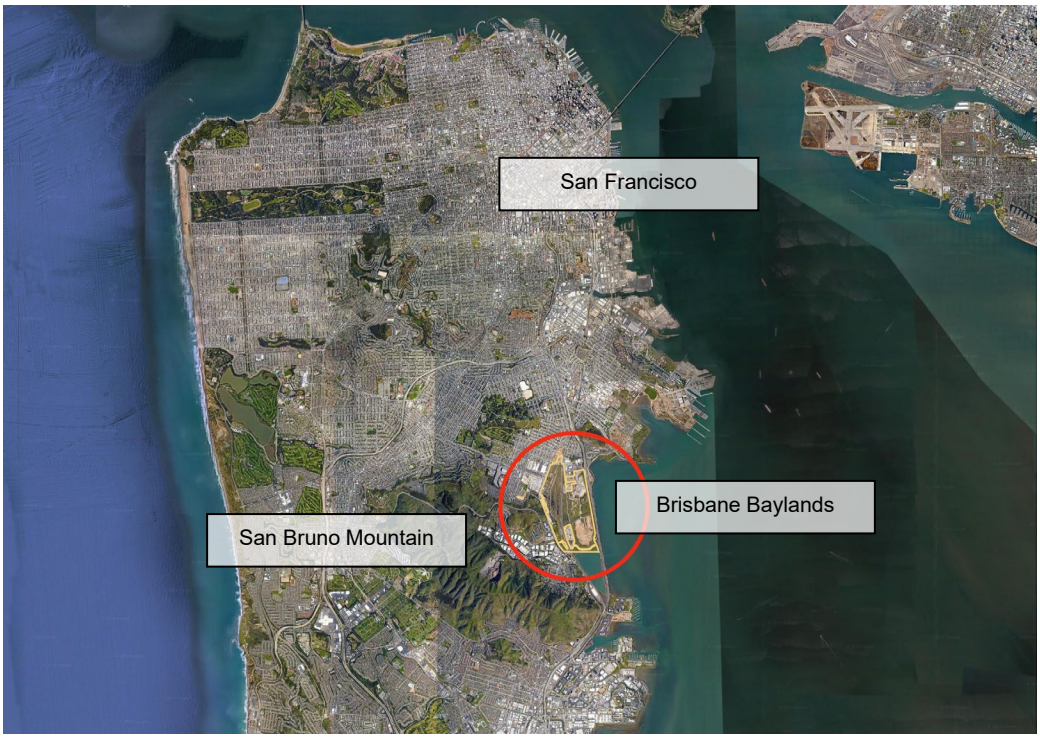


Figure 1 Baylands location

3.3 Field Data Collection

Biohabitats conducted delineation of wetlands in the Baylands on November 18-22, December 2-6, 2019, Apr 28-May 1, July 21-22, and August 25-26, 2020. Methods were the 1987 Corps of Engineers Wetlands Delineation Manual and the Arid West Regional Supplement (Version 2.0). In addition, open water was delineated in the Brisbane Lagoon and creek areas. GPS data were recorded using a Spectra Precision sub-meter GPS unit.

Plant species were identified using The Jepson Manual (Baldwin, 2012), Plants of the San Francisco Bay Region (Beidelman, 2003), and online databases such as Calflora, the California Invasive Plant Council, and the USACE National Wetland Plant List (NWPL).

Due to site history, associated compaction, and substrate constituents, a pickaxe was necessary to dig most of the 83 soil pits (Figures 2 and 3). The Munsell Soil Color Book (2013) was used to determine soil hue, value, and chroma. A magnifying glass was used to discern hydric features as appropriate to the methods.

During the site visit by the USACE on Feb 23-24, 2021, soils were evaluated in pits dug in select locations, and USACE Project Manager completed field data forms.

4 Results

4.1 General Observations of Wetland Indicators

General observations on vegetation, soils, and hydrology are described.

4.1.1 VEGETATION

Consistent with Burns & McDonnell (2008), the vegetation found at the Baylands is mostly weedy invasive and pioneer species characteristic of disturbed areas. Of the 65 species documented, 51% are considered invasive in California, and 16% are non-native.

Many of the species reported by Burns and McDonnell (2008) were also found in the current delineation, including wild oat (*Avena fatua*), ice plant (*Carpobrotus edulis*), birdsfoot trefoil (*Lotus corniculatus*), Italian thistle (*Carduus pycnocephalus*), pampas grass (*Cortaderia selloana*), wild radish (*Raphanus sativus*), black mustard (*Brassica nigra*), French broom (*Genista monspessulana*), fennel (*Foeniculum vulgare*), and blue gum (*Eucalyptus globulus*).

Native species reported in prior reports and 2019-2021 include arroyo willow (*Salix lasiolepis*), coyote brush (*Baccharis pilularis*), and toyon (*Heteromeles arbutifolia*).

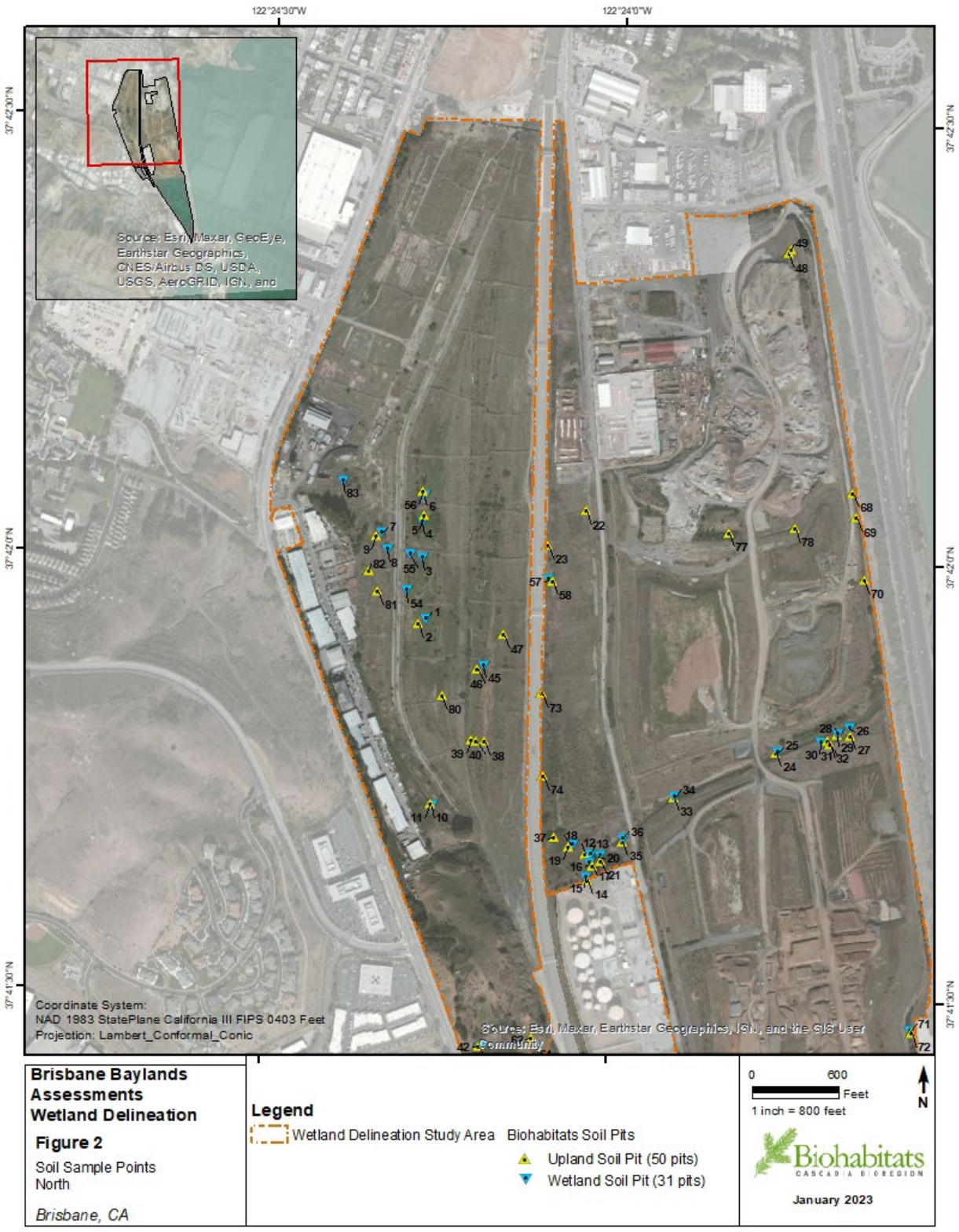


Figure 2. Soil pits, North.

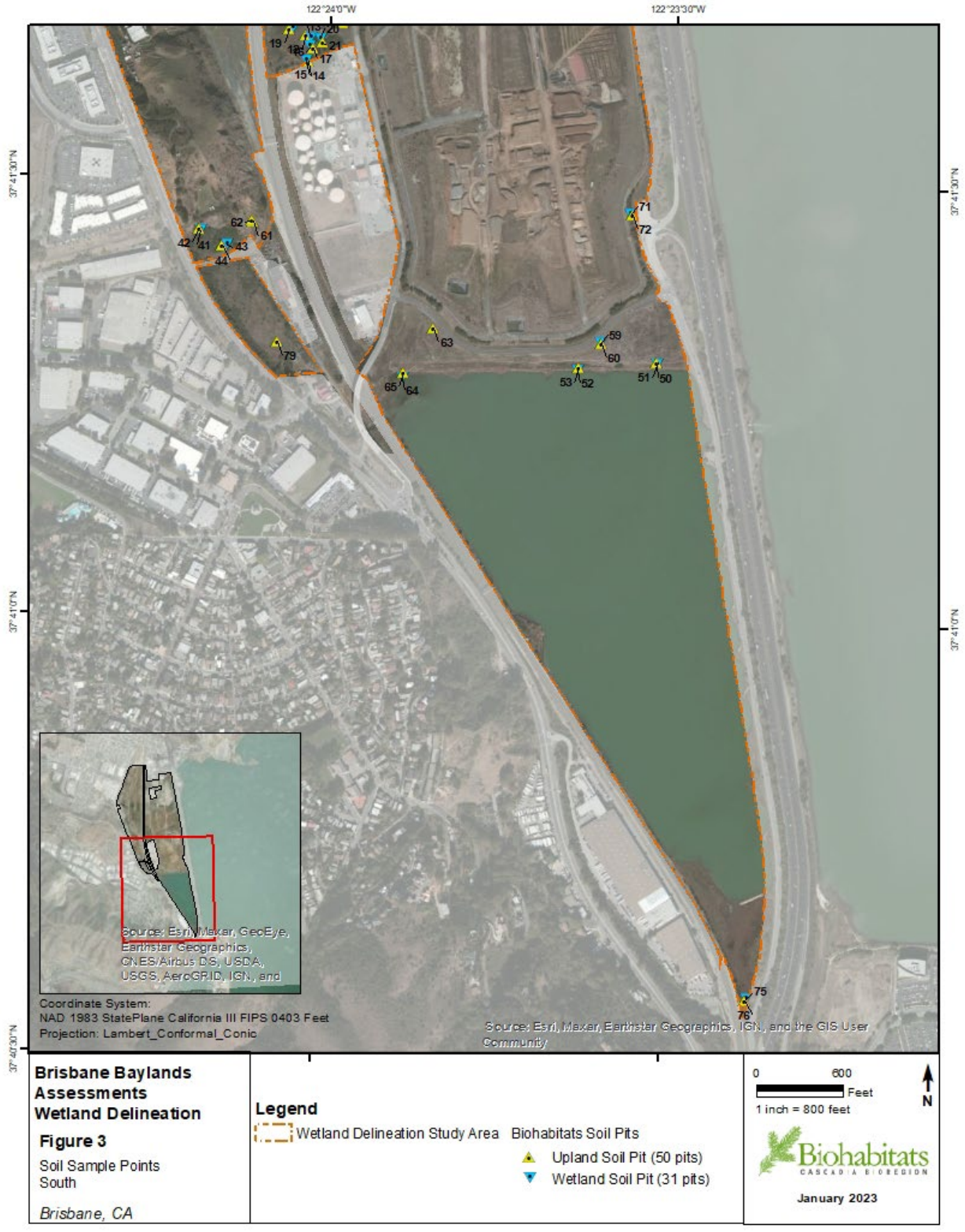


Figure 3. Soil pits, South.

The areas identified as Palustrine Emergent Wetlands and man-made depressions or ditches include narrow-leaved and broad-leaved cattails (*Typha angustifolia* and *T. latifolia*), rabbitsfoot grass (*Polypogon monspeliensis*), tall flatsedge (*Cyperus eragrostis*), common spike rush (*Eleocharis macrostachya*), and curly dock (*Rumex crispus*). Tidally influenced wetlands in the central drainage channel and the fringe of the Brisbane Lagoon are dominated by woody saltwort (*Salicornia depressa*) and opposite-leaf Russian-thistle (*Salsola soda*).

During the survey, 36 species associated with wetlands (Table 1) and 29 species associated with upland environments (Table 2) were identified.

Table 1. Baylands wetland species.

Scientific Name	**Common Name**	**NWPL Status (Arid West)**	**Habit**	**Non-Native / Invasive**
Ammophila arenaria	European Beachgrass	FACU	*Herbaceous*	Non-Native
Atriplex postrata	Hastate Orache	FACW	*Herbaceous*	Non-Native
Cortaderia jubata	Uruguayan Pampas Grass	FACU	*Herbaceous*	Invasive
Cortaderia selloana	Pampas Grass	FACU	*Herbaceous*	Invasive
Crypsis schoenoides	Swamp Prickle Grass	FACW	*Herbaceous*	Non-Native
Cynodon dactylon	Bermuda Grass	FACU	*Herbaceous*	Invasive
Cyperus eragrostis	Tall Flat Sedge	FACW	*Herbaceous*	
Distichlis spicata	Salt grass	FAC	*Herbaceous*	
Eleocharis palustris	Common spike rush	OBL	*Herbaceous*	
Elymus mollis	American dune grass	FACU	*Herbaceous*	
Festuca perennis (Lolium perenne)	Italian rye grass	FAC	*Herbaceous*	Invasive
Grindelia hirsutula	Hairy gumweed	FACW	*Herbaceous*	
Hedera helix	English ivy	FACU	*Herbaceous*	Invasive
Helminthotheca echioides	Bristly ox tongue	FAC	*Herbaceous*	Non-Native
Hordeum marinum	Seaside barley	FAC	*Herbaceous*	Invasive
Juncus effusus	Lamp rush, bog rush	FACW	*Herbaceous*	
Juncus occidentalis	Western rush	FACW	*Herbaceous*	
Limonium californicum	Marsh - rosemary	FACW	*Herbaceous*	
Lotus corniculatus	Bird’s foot trefoil	FAC	*Herbaceous*	Non-Native
Melilotus officinalis	Yellow sweet-clover	FACU	*Herbaceous*	Non-Native
Parkinsonia aculeata	Retama	FAC	*Trees/Shrubs*	Non-Native
Plantago coronopus	Buck-horn plantain	FAC	*Herbaceous*	Non-Native
Polypogon monspeliensis	Annual rabbit's-foot grass	FACW	*Herbaceous*	Non-Native
Rubus armeniacus	Himalayan blackberry	FAC	*Herbaceous*	Invasive

Scientific Name	Common Name	NWPL Status (Arid West)	Habit	Non-Native / Invasive
Rumex crispus	Curly dock	FAC	*Herbaceous*	Invasive
Salicornia depressa	Woody saltwort	OBL	*Herbaceous*	
Salix lasiolepis	Arroyo willow	FACW	*Trees/Shrubs*	
Salsola soda	Opposite-leaf Russian-thistle	FACW	*Herbaceous*	Invasive
Schoenoplectus americanus	Chairmaker's club-rush	OBL	*Herbaceous*	
Schoenoplectus californicus	California Club-Rush	OBL	Herb	
Schoenoplectus (Bolboschoenus) robustus	Seaside club-rush	OBL	*Herbaceous*	
Spartina densiflora	Dense flowered cord grass	OBL	*Herbaceous*	Invasive
Stenotaphrum secundatum	Saint Agustine Grass	FAC	*Herbaceous*	Non-Native
Typha angustifolia	Narrow-leaf cattail	OBL	*Herbaceous*	
Typha latifolia	Broad-Leaf Cattail	OBL	*Herbaceous*	
Verbascum thapsus	Woolly Mullein	FACU	*Herbaceous*	Invasive

Table 2. Baylands upland species.

Scientific Name	Common Name	Habit	Non-Native / Invasive
Acacia dealbata	Silver wattle	*Trees/Shrubs*	Invasive
Acacia longifolia	Golden wattle	*Trees/Shrubs*	Invasive
Acacia melanoxylon	Blackwood acacia	*Trees/Shrubs*	Invasive
Acacia pyracantha	Golden wattle	*Trees/Shrubs*	Invasive
Avena sativa	Wild Oat	*Herbaceous*	
Baccharis pilularis	Coyote brush	*Trees/Shrubs*	
Brassica nigra	Black mustard	*Herbaceous*	Invasive
Carduus pycnocephalus	Italian Thistle	*Herbaceous*	Invasive
Carpobrotus edulis	Ice plant	*Herbaceous*	Invasive
Centaurea solstitialis	Yellow Star Thistle	*Herbaceous*	Invasive
Crinum ssp (affn x powelii)	Cape Lily	*Herbaceous*	
Cytisus scoparius	Scotch broom	*Trees/Shrubs*	Invasive
Cytisus striatus	Portuguese Broom	*Trees/Shrubs*	Invasive
Ditrichia graveolens	Stinkwort	*Herbaceous*	Invasive
Echium candicans	Pride-of-Madeira	*Trees/Shrubs*	Invasive
Eucalyptus globulus	Blue gum	*Trees/Shrubs*	Invasive
Foeniculum vulgare	Fennel	*Herbaceous*	Invasive
Genista linifolia	Mediterranean broom	*Trees/Shrubs*	Invasive

Scientific Name	Common Name	Habit	Non-Native / Invasive
Genista monspessulana	French broom	*Trees/Shrubs*	Invasive
Hakea sericea	Silky Hakea	*Trees/Shrubs*	Invasive
Heteromeles arbutifolia	Toyon	*Trees/Shrubs*	
Limonium duriusculum	European Sea Lavender	*Herbaceous*	Invasive
Opuntia ficus-indica	Mission cactus, Tuna	*Trees/Shrubs*	Invasive
Pennisetum villosum	Feathertop	*Herbaceous*	Invasive
Phalaris minor	Littleseed canarygrass	*Herbaceous*	Non-Native
Phitolacca americana	Common pokeweed	*Trees/Shrubs*	Invasive
Pinus radiata	Monterey pine	*Trees/Shrubs*	
Pyracantha angustifolia	Narrowleaf Firethorn	*Trees/Shrubs*	Invasive
Raphanus sativus	Wild Radish	*Herbaceous*	Invasive

4.1.2 SOILS

Desktop descriptions of Baylands soils are provided by Web Soil Survey (Figure 4). The five soil types are described in order of decreasing area:

Unit 134 (68.1% / 495 acres) – **Urban land-Orthents, reclaimed complex, 0-2% slopes.** This soil type is the primary representative of the railyard and landfill. Urban Land is a disturbed classification, primarily covered with asphalt, concrete, buildings, and other urban structures. Orthents are cut & fill and reclaimed. Urban land comprises about 65% of this complex, orthents about 30%, and other minor components are about 4%. Orthents, in turn, are soils lacking horizon development. The soils on the former railyard are mostly remains of sand and ballast, and compacted gravelly loamy sand is widespread. The proliferation of buried trash complicated the interpretation of features.

Water (15.7% / 114 acres) – Brisbane Lagoon. This is described further in Section 2.3 (Aquatic Resources).

Unit 131 (13.4% / 97 acres) – **Urban land**. These intensively disturbed soils at the northern and southern edges of The Baylands are different from Unit 134 in that they are not complexed with Orthents.

Unit 110 (1.5% / 11 acres) – **Candlestick-Kron-Buriburi complex, 30-75% slopes**. This soil unit represents the top of Ice House Hill, which has not been developed. It is typical of mountain back slopes and flanks and is weathered from sandstone. These well-drained soils are generally described as 40% Candlestick fine sandy loam (surficial), 25% Kron sandy loam, and 20% Buriburi gravelly loam soils (the remaining 15% is minor components). Formed from hard, fractured sandstone, the soil profile reveals loam at up to 20” and sandy clay loam to 24” depth. It is slightly saline (2.0 mmhos/cm) and has a low water storage capacity.

Figure 4 Soils of the Baylands (NRCS). See text for unit descriptions.

Unit 122 (1.4% / 10 acres) – **Orthents, cut and fill, 15-75% slopes**. These soils are on the shoulders and slopes of Ice House Hill. Like Unit 110, this type is typical of mountain back slopes, and flanks are weathered from sandstone and are well-drained.

Hydric soil indicators were not consistent in the wetland samples, particularly in the railyard. Care was necessary to not misinterpret rusty iron (e.g., railroad spikes) or scoria (red volcanic rock) as redox.

Mucky profiles were found on the wetland fringes of the central channel and the western ditch (see descriptions for Wetlands 5 & 6). Wetlands in the former landfill had stronger indicators, particularly those associated with tidal action in the central channel.

4.1.3 HYDROLOGY

The naturally deposited Young Bay Mud that formed the original marsh and mudflats were connected to the open waters and tides of the San Francisco Bay. These areas were filled from the late 1800s to the early 1900s with sand, gravel, and construction debris, with lesser amounts of silt and clay.

Young Bay Mud is a contiguous, low-permeability aquitard that impedes the vertical migration of groundwater and contaminants to underlying sands (Geosyntec 2019). Due to higher surrounding topography and groundwater elevations, surface water runoff and lateral flow accumulate in the center of the site and discharge through evaporation, manufactured drains, and central channel. Palustrine emergent wetlands depend on this accumulation of precipitation and surface flow. Motorcycle tracks from recreational users enhance microtopography and collection of surface runoff on the railyard.

The primary surface water feature is the central channel/Visitacion Creek. Before water runoff from Visitacion Valley reaches the central channel, it first flows through an old brick culvert into a timber box that emerges from under the Caltrain rails and runs ~575 ft before discharging into the open channel. The central channel/Visitacion Creek (~2340 ft of open water) is separated into three sections by four culverts before ultimately discharging into San Francisco Bay (Figure 5).

Figure 5. Central channel, also called Visitacion Creek.

The channel is 35 ft wide in the easternmost portion, while some sections at the center and west are 20 and 12 feet wide. The width of the intertidal zone varies accordingly. Areas with steep slopes have a very thin marsh. The most extensive zones are located to the east. For example, almost 100 ft of the marsh is near the easternmost culvert.

This channel is subject to tidal action from the San Francisco Bay, creating conditions for estuarine intertidal wetlands 12, 13, and 14 (described below). Wetlands 8, 9, 10, and 11 are also influenced by tidal action through the cracks of the old wooden culvert; they are therefore also considered estuarine-intertidal.

A secondary ditch (constructed waterway – CW-6), associated with Wetlands 5 & 6, flows from the North after receiving overland runoff from a lined ditch (CW-7) coming from the railyard.

4.2 Delineated Wetlands

Including the Feb 2021 USACE review, twenty-nine wetland features totaling 19.4 acres were identified within the study area. These features, corresponding soil pit numbers, and acreages are summarized in Table 3 and shown in Figures 6 and 7 (soil pits are mapped in Figures 2 and 3). Wetlands are described individually in Section 4.2.1, and data forms are in Appendix 5.

Table 3. Summary of Baylands wetlands delineated between 2019 and 2021. 2021. Data reflect modifications by the USACE. B&M (2008) wetland features are included for comparison (see Figures 6-8 for illustration); wetlands are paired as appropriate. Impacted and not impacted categories are based on the BDI Master Plan as of October 2021.

Site Number (PJD)	Type of aquatic resource (USACE)	2019	B&M 2008	Code*	Soil Pits 2019-2020-2021	Acres	
Impacted PWOUS							
SPN-2003-280500-W-1	Wetland	W-1, W-2, W-4	W-22	PEM	1, 2, 3, 4, 5, 6, 54, 55, 56, F, G	7.537	
SPN-2003-280500-W-2	Wetland	W-3	W-23	PEM	7, 8, 9, A, B, C, D, E	0.333	
SPN-2003-280500-W-3a	Wetland	-	-	PEM	80	0.494	
SPN-2003-280500-W-3b	Wetland	-	-	PEM	80	0.117	
SPN-2003-280500-W-4	Wetland	W-20	-	PEM	38, 39, 40, 45, 46, 47	2.053	
SPN-2003-280500-W-5	Wetland	W-5 & W-6	W-21	PEM	10, 11	0.144	
SPN-2003-280500-W-6	Wetland	W-5 & W-6	W-21	PEM	10, 11	0.118	
SPN-2003-280500-W-7	Wetland	W-7	W-18	PEM	18, 19	0.272	

Site Number (PJD)	Type of aquatic resource (USACE)	2019	B&M 2008	Code*	Soil Pits 2019-2020-2021	Acres	
SPN-2003-280500-W-8	Wetland	W-8	W-17	E2EM	14, 15	0.112	
SPN-2003-280500-W-9	Wetland	W-9	W-14	E2EM	12, 13	0.124	
SPN-2003-280500-W-10	Wetland	W-10	W-16	E2EM	20, 21	0.005	
SPN-2003-280500-W-11	Wetland	W-11	-	E2EM	16, 17	0.003	
SPN-2003-280500-W-12a	Wetland	W-12	W-3, S-1	E2EM	35, 36	0.018	
SPN-2003-280500-W-12b	Wetland	W-12	W-3, S-1	E2EM	35, 36	0.015	
SPN-2003-280500-W-13	Wetland	W-13	W-1, S-1	E2EM	33, 34	0.320	
SPN-2003-280500-W-14	Wetland	W-14	W-2, W-11	E2EM	24, 25	0.494	
SPN-2003-280500-W-15b	Wetland	W-15	W-12, W-13	PEM	28, 29	0.018	
SPN-2003-280500-W-16	Wetland	W-16	-	PEM	30, 31, 32	0.017	
Excluded		W-17	W-25	PEM	41, 42		
Excluded		W-18	W-24	PSS	43, 44		
SPN-2003-280500-W-17	Wetland	-	-	PEM	22, H	0.086	
SPN-2003-280500-W-18	Wetland	-	-	PEM	73	0.015	
SPN-2003-280500-W-20	Wetland	-	-	PEM	-	0.008	
SPN-2003-280500-W-21	Wetland	-	-	PEM	-	0.021	
Non-existent		W-21	-	PEM	57, 58		
SPN-2003-280500-W-22	Wetland	W-22	-	PEM	59, 60	0.002	
SPN-2003-280500-W-23	Wetland	W-23	-	PEM	78,79	0.023	
SPN-2003-280500-W-28	Wetland	-	-	PEM	-	0.020	
SPN-2003-280500-W-29	Wetland	-	-	PEM	L	0.397	
SPN-2003-280500-CB1	Wetland			CB		0.204	
SPN-2003-280500-CB16	Wetland			CB		0.021	
SPN-2003-280500-CB-21	Wetland			CB		0.312	
SPN-2003-280500-CB-22	Wetland			CB		0.492	
SPN-2003-280500-CB-23	Wetland			CB		0.280	
SPN-2003-280500-CB-24	Wetland			CB		0.259	
SPN-2003-280500-CB-27	Wetland			CB		0.162	
					Total Impacted Wetlands		**14.496**

Site Number (PJD)	Type of aquatic resource (USACE)	2019	B&M 2008	Code*	Soil Pits 2019-2020-2021	Acres	
SPN-2003-280500-W-19	Non-wetland waters	W-19	W-4	E2RS	50, 51, 52, 53	1.058	
SPN-2003-280500-CW-6	Non-wetland waters			CW		0.242	
SPN-2003-280500-CW7	Non-wetland waters			CW		0.015	
SPN-2003-280500-OW-2	Non-wetland waters			OW		0.042	
SPN-2003-280500-OW-3	Non-wetland waters			OW		0.657	
SPN-2003-280500-OW-4	Non-wetland waters			OW		0.408	
Total impacted non-wetland waters							**2.422**
Total impacted PWOUS							**16.918**
Not Impacted PWOUS							
SPN-2003-280500-W-15a	Wetland	-	-	PEM	-	0.036	
SPN-2003-280500-W-24	Wetland	W-24	-	E2EM	64, 65	0.433	
SPN-2003-280500-W-25a	Wetland	W-25a-br	-	E2RS	64, 65	0.047	
SPN-2003-280500-W-27	Wetland	W-27	-	E2EM	82, 83	4.910	
Total not impacted wetlands							**5.426**
SPN-2003-280500-W-25b-br	Non-wetland waters	W-25a-br	-	E2RS	64, 65	0.197	
SPN-2003-280500-W-26	Non-wetland waters	W-26	-	E2RS	-	0.012	
SPN-2003-280500-OW-1	Non-wetland waters			OW		105.808	
SPN-2003-280500-OW-5	Non-wetland waters			OW		7.201	
SPN-2003-280500-OW-6	Non-wetland waters			OW		1.405	
SPN-2003-280500-OW-7	Non-wetland waters			OW		0.143	
SPN-2003-280500-OW-8	Non-wetland waters			OW		0.412	
Total not impacted non-wetland waters							**114.981**
Total not impacted PWOUS							**120.407**
Total delineated PWOUS							**137.325**

* E2EM = Estuarine Intertidal Emergent, E2RS = Estuarine Intertidal Rocky Shore, PEM = Palustrine Emergent, PSS = Palustrine Scrub Shrub, CW = Constructed Waterway, CB = Constructed Basin, OW = Open Water

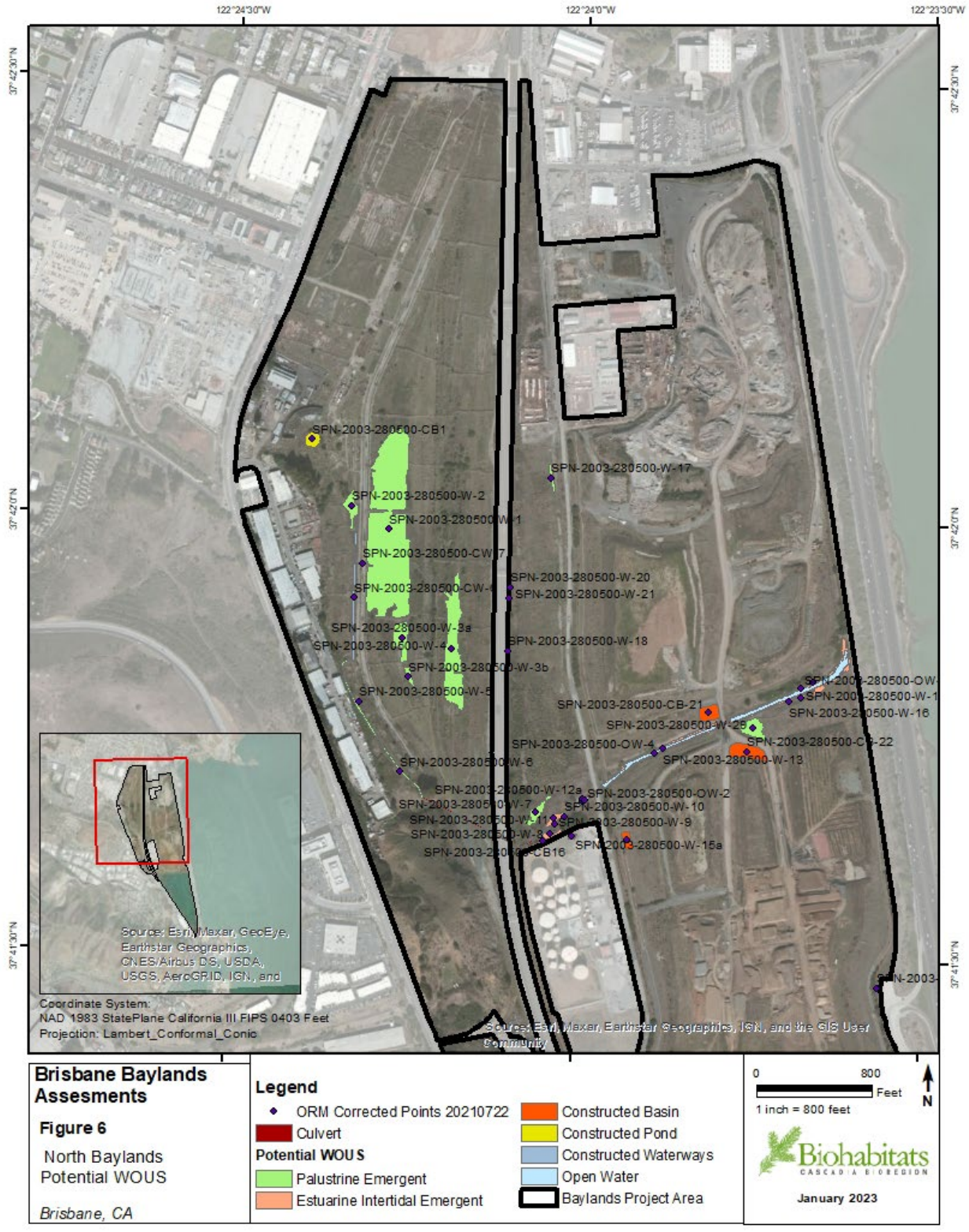


Figure 6. Delineated Potential Waters of the U.S. - North

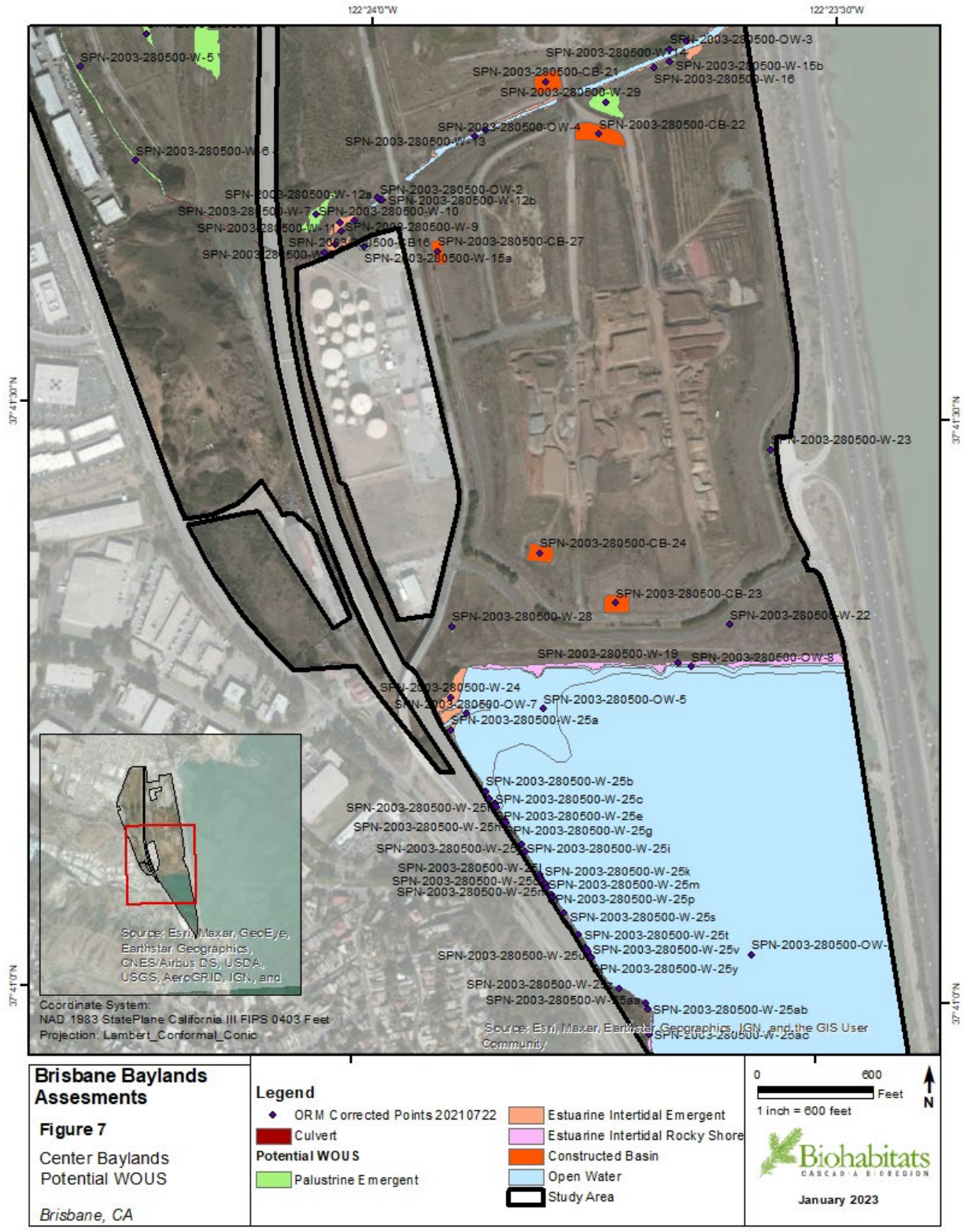


Figure 7. Delineated Potential Waters of the U.S. - Center.

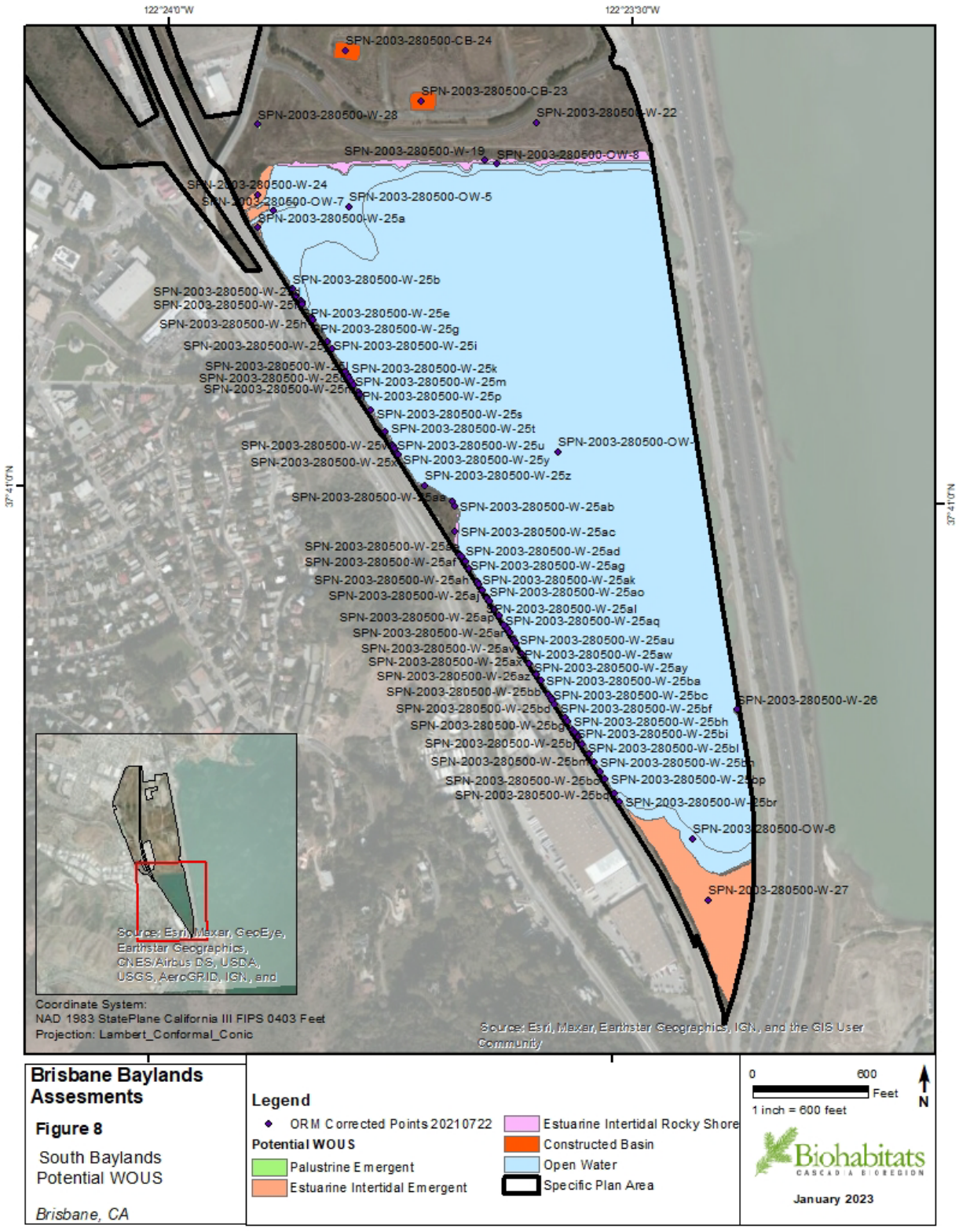


Figure 8. Delineated Potential Waters of the U.S.- South

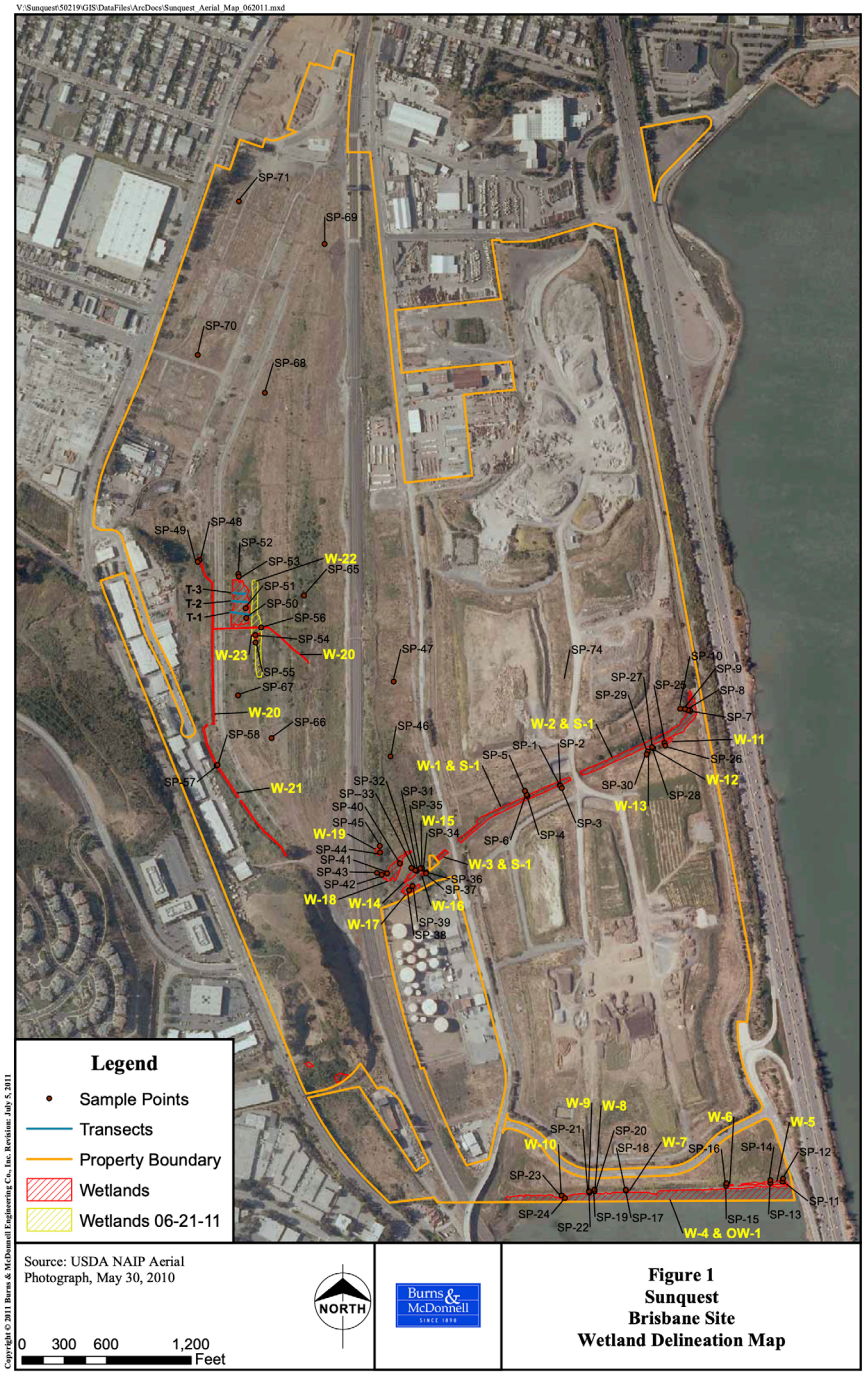


Figure 9. Brisbane Baylands Wetland Delineation Report (2008) and 2011 addendum by Burns & McDonnell.

4.2.1 WETLAND DESCRIPTIONS

Individual wetlands are described in this section. A hyphenated numeric code indicates that the wetland was modified during the USACE review in Feb 2021.

SPN-2003-280500-W-1 (7.5 acres, Figure 10) is the most prominent wetland in the former railyard.[1] Situated on flat terrain, this portion of the property has been used for motorcycles and dirt bikes, cutting deep tracks, compacting the surface, and creating depressions that accumulate rainwater.

Figure 10 Wetland SPN-2003-280500-W-1

Soils are railroad ballast and loamy sand, compacted and dry, with no resemblance to natural wetland soil. Hydric indicators are rare, yet sandy redox and oxidized rhizospheres indicated wetland hydrology.

Most of the area is covered with herbaceous hydrophytes including chairmaker's bulrush, salt grass and cattails; some groupings of arroyo willow also occur. Most of the areas show characteristics of seasonal changes and annual upland species dominate in dry seasons, qualifying the area as a seasonal wetland (pers. comm., Sarah Firestone, USACE, Feb 2021).

SPN-2003-280500-W-2 (0.33 ac, Figure 11) was formed by an excavation to guide runoff to the lined drain running southward. The soil was slightly humid; drainage patterns as hydrology indicators were more evident than the barely noticeable redox concentrations in the soil. The corresponding upland soil pit (No. 9) had a strong petroleum smell.

SPN-2003-280500-W-3a & 3b (0.61 ac. Figure 12) is located to the South of W2-1, separated by a berm. It was delineated by the USACE for the High-Speed Rail (HSR) delineation and included here by their request after the Feb 2021 site visit. In 2019 no soil (SP-80, Fig. 2) or hydrology indicators were observed. Vegetation was a mix of hydrophytic and non-listed species.

[1] The USACE review determined that the former W-1, W-2, and W-4 are one single feature.

Figure 11 Wetland SPN-2003-280500-W-2

Figure 12 SPN-2003-280500-W-3a & 3b (August 26, 2020).

SPN-2003-280500-W-4 (2.05 acres, Figure 13). This elongated area in the former railyard was formed by land management activities that accumulated fill in the bermsevident in portions of the property; the heavy use of motorcycles causes ponding and supports *Distichlis spicata*.

In 2019 and 2020, Biohabitats dug five soil pits (SP-38, SP-39, SP-40, SP-45, SP-46, & SP-47) and found hydric soil indicators only in SP-45, then used to identify a smaller wetland (W-20). The proliferation of sand), cinder, brick particles, and rusted iron (all from railyard operations) are easily mistaken as gley and redox indicators. The USACE in Feb 2021 recommended the application of criteria for difficult soils and included this feature as a wetland.

Figure 13 SPN-2003-280500-W-4. Salt grass-dominated area.

Wetlands SPN-2003-280500-W-5 & 6 (0.261 ac, Figure 14) are two sections of a north-south ditch that receives water from the lined drain and runoff from the industrial area to the west. These two wetlands are 6-15 feet wide and 1,110 ft long, excluding the collapsed culvert between them. In significant storm events, the water from the ditch discharges into a catchment box, an arched brick duct, the old wooden culvert across the railroad, and finally, the central channel/Visitacion creek.

The ditch is covered in several areas by blackberry overgrowth from the sides and in others by cattail. The only wetland vegetation species inside the ditch is cattail. Along the edge of the ditch, blackberry overgrowth, fennel, and other invasive species create a thick and spiny entangled mass.

The soil is Histosol (A1), featuring a deep layer of dark muck with fibrous material and decomposed organic matter. Surface water and saturation indicate wetland hydrology.

Figure 14 Cattail in SPN-2003-280500-W-5 and 6.

Wetland SPN-2003-280500-W-7 (0.272 ac, PEM, Figure 15) is separated from Wetlands 8, 9, 10, and 11 by a culvert. This wetland is a depression completely covered by cattail that likely formed after the construction of the wooden culvert or service access between Tunnel Avenue and the railroad.

Figure 15 Wetland SPN-2003-280500-W-7 hydric soil.

Figure 16 Wetland SPN-2003-280500-W-8

Perceived redox features, a loamy gleyed matrix, and a hydrogen sulfide smell indicated hydric soil. The water table was at 15.5 inches.

Wetland SPN-2003-280500-W-8 (0.112 ac, E2EM, Figure 16) was formed by a depression located on the south side of the timber box culvert. It receives some seasonal runoff from the paved surface adjacent to the Kinder-Morgan tank facility in addition to tidal overflow from the timber culvert. Since tidal flow reaches this wetland, it is Estuarine Intertidal Emergent (E2EM). The wetland has a significant bare ground (65%) and a loamy gley profile. The leading hydrological indicators are surface water (5 in), saturation, watermarks, and sediment deposits (non-riverine).

Figure 17 Wetland SPN-2003-280500-W-9.

Wetland SPN-2003-280500-W-9 (0.12 ac, Figure 17) is on the north side of the old wooden culvert of the central channel. We classify it as E2EM (Estuarine Intertidal) because the hydrology is tidal via the culvert. The soil pit 12/13 (Figure 2) showed redox depressions under a layer where numerous glass bottles and other landfill debris were found. Many hydrological indicators were

observed, including surface water, saturation, watermarks, surface soil cracks, biotic crust, and a hydrogen sulfide smell.

Figure 18 Wetland SPN-2003-280500-W-10

Wetland SPN-2003-280500-W-10 (0.005 ac, Figure 18) is a minor feature adjacent to the southern side of the timber culvert where the culvert is decayed and burned. At the time of the survey, the tide was rising, demonstrating that high tides flood the depression, likely formed by erosion. At the same time, a groundwater source discharges here and flows into the channel. Soil Pit 20 had a strong hydrogen sulfide odor, sandy redox marks, and a gleyed soil layer. The trash from the landfill was found throughout the profile.

Wetland SPN-2003-280500-W-11 (0.003 ac, Figure 19) is a tiny feature adjacent to the timber box culvert and subject to tidal dynamics. Like W-10, it appears that it was created by erosion from channel water. The top 14 inches of the profile had redox features, reinforced by a bluish-black color below. Sediment deposits, salt, and biotic crust were the hydrology indicators.

Figure 19 Wetland SPN-2003-280500-W-11

Wetland SPN-2003-280500-W-12a & b (0.033 ac, E2EM1, Figure 20) occupies the westernmost section of the central channel, between the end of the wooden culvert (where a pump room is located, see Fig. 19) and Tunnel Road. It is a narrow, intertidal fringe of woody saltwort (*Salicornia depressa*) on both sides of the channel. The soil has a mucky gleyed layer with some fibrous material throughout the soil profile.

Figure 20 Wetland SPN-2003-280500-W-12a & b

Wetland SPN-2003-280500-W-13 (0.318, E2EM1, Figure 21) is an intertidal marsh on both channel slopes varying in width from 2 to 14 feet and entirely covered by woody saltwort (*Salicornia depressa*). Soils showed low chroma and a gleyed layer starting at 11 inches with a strong hydrogen sulfide smell. Many glass bottles and broken glass were encountered throughout the profile. The refuse is almost at the surface in this area of the former landfill.

Figure 21 Wetland SPN-2003-280500-W-13 and ice plant

Wetland SPN-2003-280500-W-14 (0.491 ac, E2EM1, Figure 22) occupies the intertidal fringe on both sides of the eastern section of the central channel/Visitacion creek. Sharing similar characteristics with W-12 and W-13, 94% of the vegetal cover is woody saltwort, indicating the strong influence of the saltwater that flows through the culverts from the San Francisco Bay across Hwy 101. The whole soil profile (SP-25) was a heavy and saturated gleyed muck with fibrous roots and vegetal matter.

Figure 22 Wetland SPN-2003-280500-W-14.

Figure 23 Wetland SPN-2003-280500-W-15b

Wetland SPN-2003-280500-W-15b (0.018 ac, Figure 23) is a depression separated from the tides by a small berm, likely accumulating runoff from the upland slope to the South. Soil and Hydrology indicators were subtle but present.

Wetland SPN-2003-280500-W-16 (0.017 ac, Figure 24) is adjacent to No. 15, also a depression and separated from the central channel. Opposite-leaf Russian thistle (*Salsola soda*) covered most of the area, and bristly ox-tongue (*Helminthotheca echioides*) was also widespread.

Figure 24 Wetland SPN-2003-280500-W-16.

Figure 25 Wetland SPN-2003-280500-W-17

Wetland SPN-2003-280500-W-17 (0.08 acres, Figure 25) Formed from a slight depression between tunnel road and a newly built parking area, this feature was visited in Nov 2019 and ruled out as a wetland for lack of hydric soil indicators. In Feb 2021, the USACE deemed it potential water of the U.S.

Wetlands SPN-2003-280500-W-18, 20, 21. (0.015, 0.008, and 0.021 acres, respectively) are located along the eastern side of the CalTrain tracks where cattail and filamentous algae grow in standing water (Figure 26).

Figure 26 Ponding water. algae and cattail in SPN-2003-280500-W-18

Non-Wetland SPN-2003-280500-W-19 (1.079 ac, Figure 27) is along the northern shoreline of Brisbane Lagoon. It is a long and slender area that extends from mean low water (MLW) to higher high water (HHW) tidal levels. It is classified as an Estuarine Intertidal Rocky Shore. Soil Pit 50 had a petroleum odor. Landfill trash and glass fragments were also found.

Figure 27 Brisbane Lagoon and SPN-2003-280500-W-19

Wetland SPN-2003-280500-W-22 (0.001 ac, Figure 28) is a small depression that receives runoff from Lagoon Rd. The biological crust in the form of free-floating algae covers an estimated 85% of the surface.

Figure 28 Wetland SPN-2003-280500-W-22.

Wetland SPN-2003-280500-W-23 (0.023 ac, Figure 29) is a small depression between two roads, one paved and the other unpaved, where stormwater runoff and sediment accumulate. 60% of the feature is bare, with some remnants of biotic crust. Dominant vegetation includes *Rumex crispus* (FAC) and *Polypogon monspeliensis* (FACW); *Dittrichia graveolens* (UPL) are also present.

Figure 29 Wetland SPN-2003-280500-W-23

Wetland SPN-2003-280500-CB-24 (0.433 ac, Figure 30) is in the intertidal area of Brisbane Lagoon's northwest corner, at the discharge point of Guadalupe Canal. It is covered by *Salicornia depressa* (OBL) that grows over a loamy clay, saturated substrate, and has a mild hydrogen sulfide smell.

Figure 30 SPN-2003-280500-CB-24 NW corner of Brisbane Lagoon looking South. Dense pickleweed is adjacent to an extended intertidal mudflat. The Guadalupe Canal discharge is on the right.

Wetland SPN-2003-280500-W-25 (0.197 ac, Figure 31) extends along the western shore of Brisbane Lagoon. It is composed of small patches of *Salicornia depressa* that grow among the rip rap on the slope adjacent to the CalTrain tracks. 70 small units (25a – 25br) of *S. depressa* were found and recorded with areas ranging from less than a single square foot to patches >2000 sq ft. Feature 25a was considered wetland and features 25b to 25br, non-wetland waters (USACE).

Figure 31 Wetland SPN-2003-280500-W-25 between large boulders

Wetland SPN-2003-280500-W-26 (0.012 ac) is on the east side of Brisbane Lagoon, growing on a platform created by the riprap of Sierra Point Parkway. Note that the Baylands study area does not encompass all of Brisbane Lagoon; only this wetland portion is included in the present report.

Wetland SPN-2003-280500-W-27 (4.852 ac, Figure 31) is the southernmost area of Brisbane Lagoon. It is dominated by pickleweed and has a small shell beach and a constructed tidal channel. It is the largest and most conserved tidal marsh habitat on the Brisbane Lagoon.

Figure 32 Large continuous pickleweed mats in SPN-2003-280500-W-27

Wetland SPN-2003-280500-W-28 (0.02 acres, Figure 33) occupies a depression within a stormwater drain to the east of the bridge where Tunnel Ave. originates from Bayshore Blvd. It contains ponded water with filamentous algae, *Cyperus eragrostis*, and *Rumex crispus*.

Figure 33 Ponded water in SPN-2003-280500-W-28

Wetland SPN-2003-280500-W-29 (0.39 acres, Figure 34) was evaluated during the Feb 2021 USACE site visit. It is dominated by *Festuca perennis* (*Lolium perenne*) and is used to disperse the overflow of the constructed basin to the South (CB2-22). During the visit, the soil was saturated.

Figure 34 SPN-2003-280500-W-29, *Festuca perennis* (*Lolium perenne*) dominated slope.

4.3 Waters of the US

In addition to the wetlands described above, open waters of the US were delineated following the definition of "Waters of the U.S." in the Corps/EPA CWA regulations (33 CFR 328.3(a)); the definition of "navigable waters of the U.S. in the Corps RHA regulations (33 CFR Part 329.4 (RHA)) and following the procedures in the USACE Jurisdictional Determination Form Instructional Guidebook.

Eight open water (OW) areas were delineated, including unvegetated tidal areas below mean high water and subject to tidal action (Table 4). Visitacion Creek and the shoreline of Brisbane Lagoon are estuarine intertidal systems mostly with unconsolidated bottoms. The riprap of the lagoon is considered an

Table 4. Summary of Open Water (OW)

ID No.	Cowardin classification*	Acres
OW-1	E1UB	105.808
OW-2	E2US	0.042
OW-3	E2US	0.657
OW-4	E2US	0.408
OW-5	E2US	7.201
OW-6	E2US	1.405
OW-7	E2US	0.143
OW-8	E2RS	0.412

*E1UB Estuarine, Subtidal Unconsolidated Bottom; E2RS Estuarine Intertidal Rocky Shore; E2US Estuarine Intertidal Unconsolidated Shore

intertidal unconsolidated shore, while the main body of Brisbane Lagoon is subtidal unconsolidated bottom.

4.4 Other Potential Waters

Six detention and sedimentation stormwater facilities are associated with the soil and fill mounds over the former landfill. These are lined with synthetic liners, considered constructed basins, and designated a CB- identifier (figure 35). The one exemption is CB-1, a concrete structure overgrown with cattails located at the roundhouse that used to contain the machinery to turn around locomotives.

Figure 35 Constructed Basin (CB)

Constructed waterways (CW-) are the sections of a drainage channel intended to connect SPN-2003-280500-W-1 with SPN-2003-280500-W-5 to conduct water towards the Visitacion creek (figure 36).

Figure 36 Lined drain classified as SPN-2003-280500-CW-6

Table 5. Other PWOUS

Other Potential Waters	Code	Acres
Constructed Basin	CB- 1, 16, 21, 22, 23, 24, 27	1.73
Constructed Waterways	CW- 6, 7	0.25
Open Waters	OW - 1, 2, 3, 4, 5, 6, 7, 8,	116.08
Total Other Potential Waters of the U.S.		117.86

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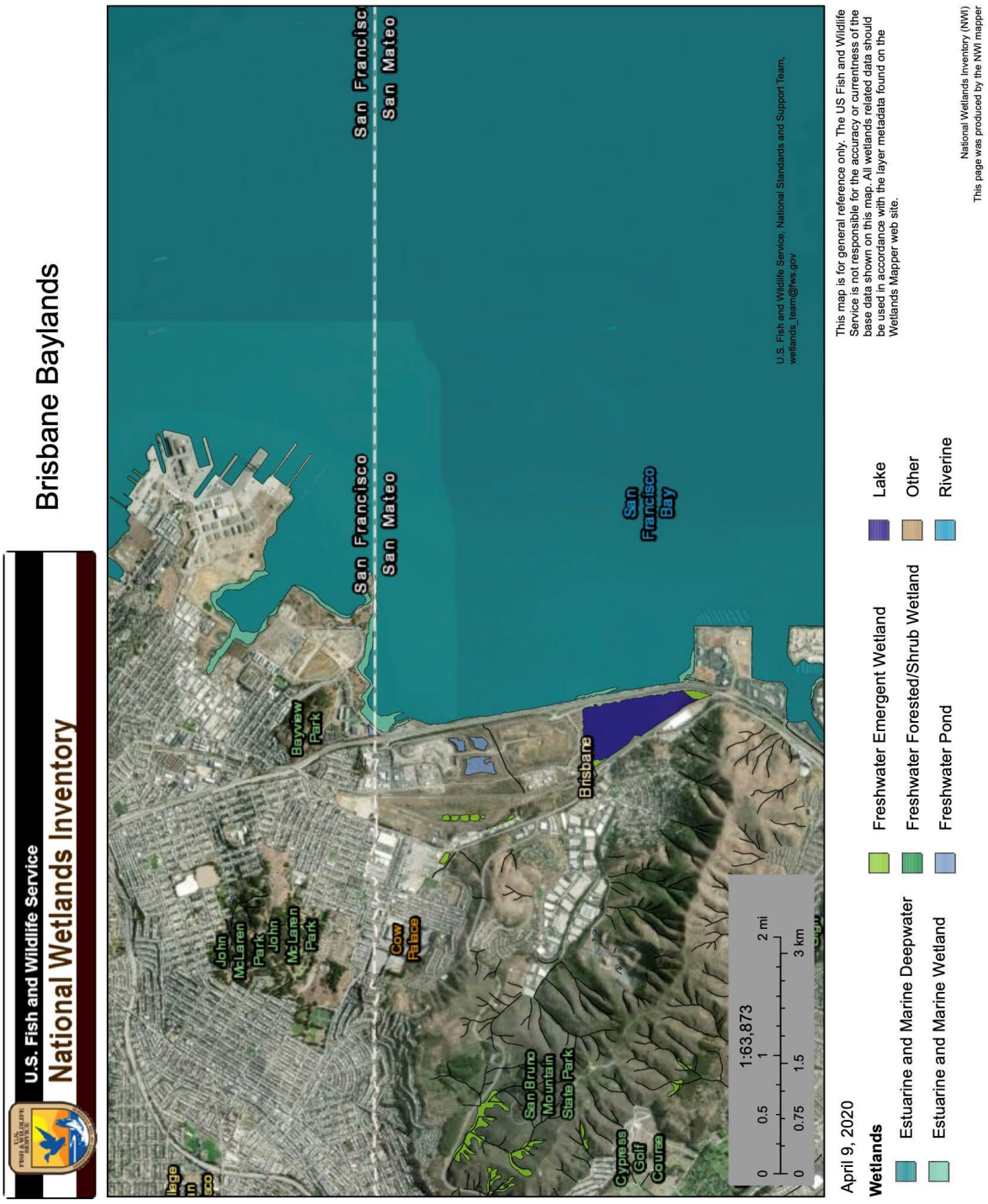
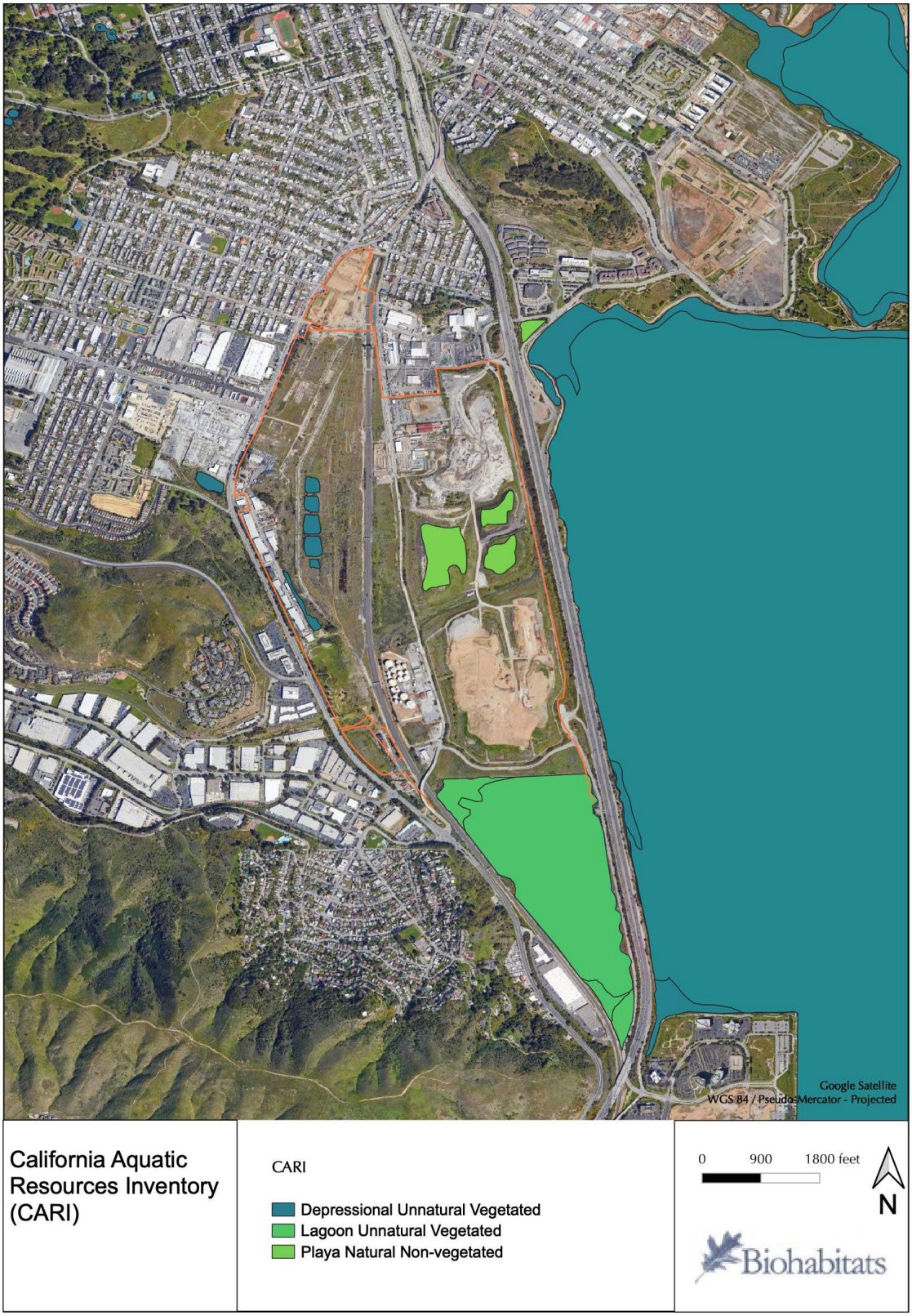
Appendix

1. USFWS National Wetland Inventory

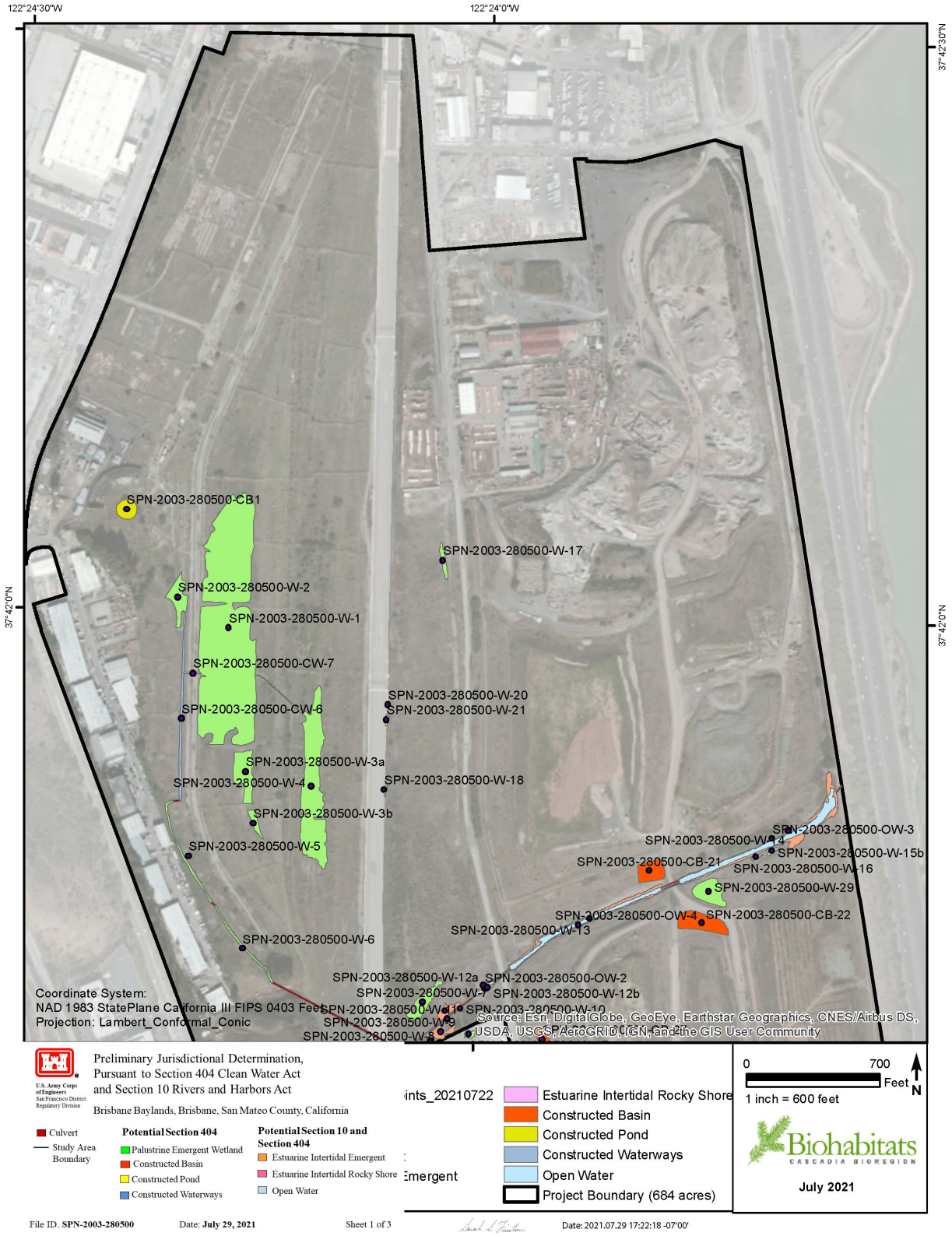


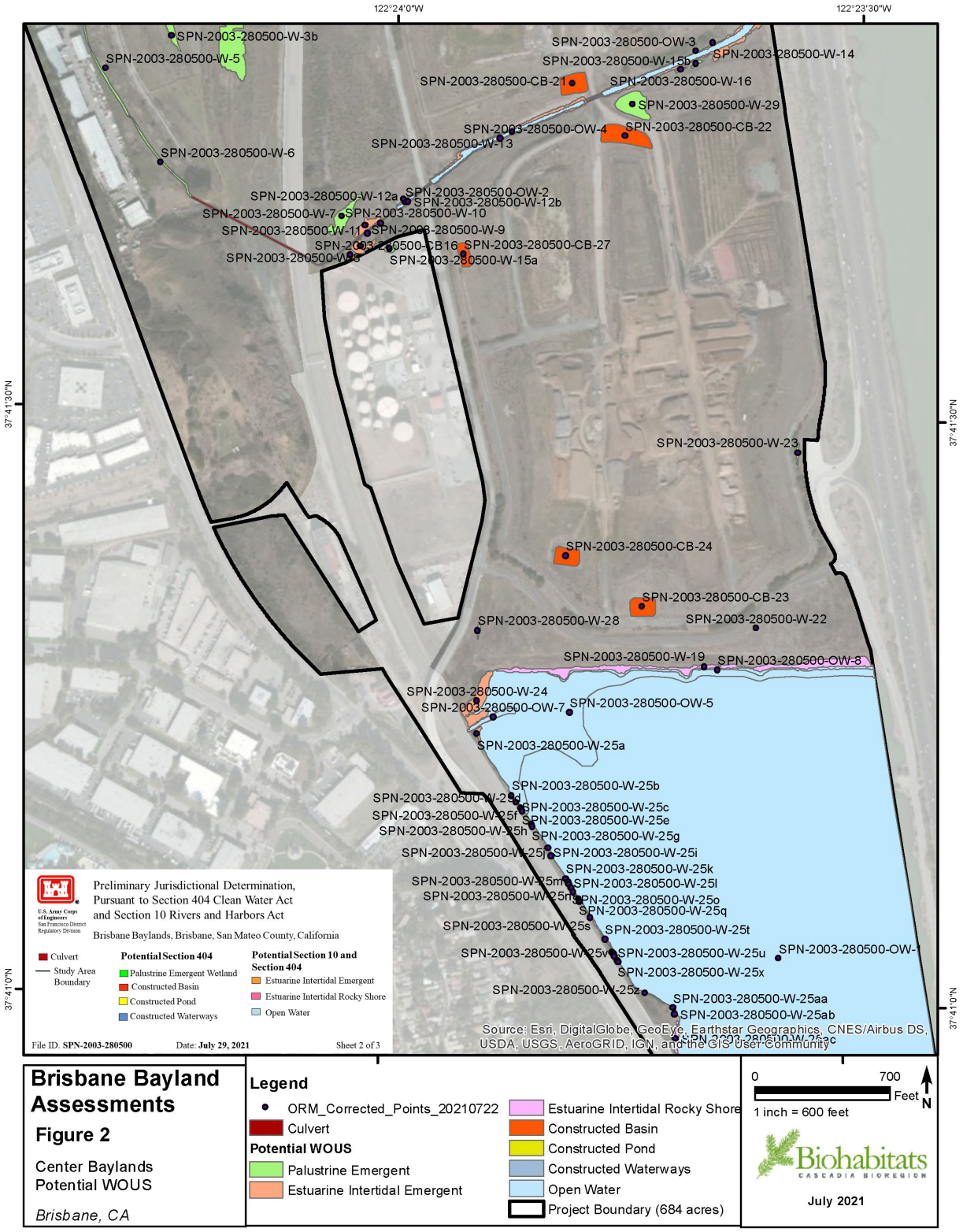
2. California Aquatic Inventory (CARI)



3. NRCS Web Soil Survey

4. USACE Preliminary Jurisdictional Determination Maps (2021)

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Preliminary Jurisdictional Determination,
Pursuant to Section 404 Clean Water Act
and Section 10 Rivers and Harbors Act
Brisbane Baylands, Brisbane, San Mateo County, California
U.S. Army Corps of Engineers
San Francisco District
Regulatory Division
Culvert
Study Area Boundary
Potential Section 404
Palustrine Emergent Wetland
Constructed Basin
Constructed Pond
Constructed Waterways
Potential Section 10 and Section 404
Estuarine Intertidal Emergent
Estuarine Intertidal Rocky Shore
Open Water
File ID. SPN-2003-280500
Date: July 29, 2021
Sheet 2 of 3
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Brisbane Bayland Assessments
Figure 2
Center Baylands Potential WOUS
Brisbane, CA
Legend
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Potential WOUS
Palustrine Emergent
Estuarine Intertidal Emergent
Estuarine Intertidal Rocky Shore
Constructed Basin
Constructed Pond
Constructed Waterways
Open Water
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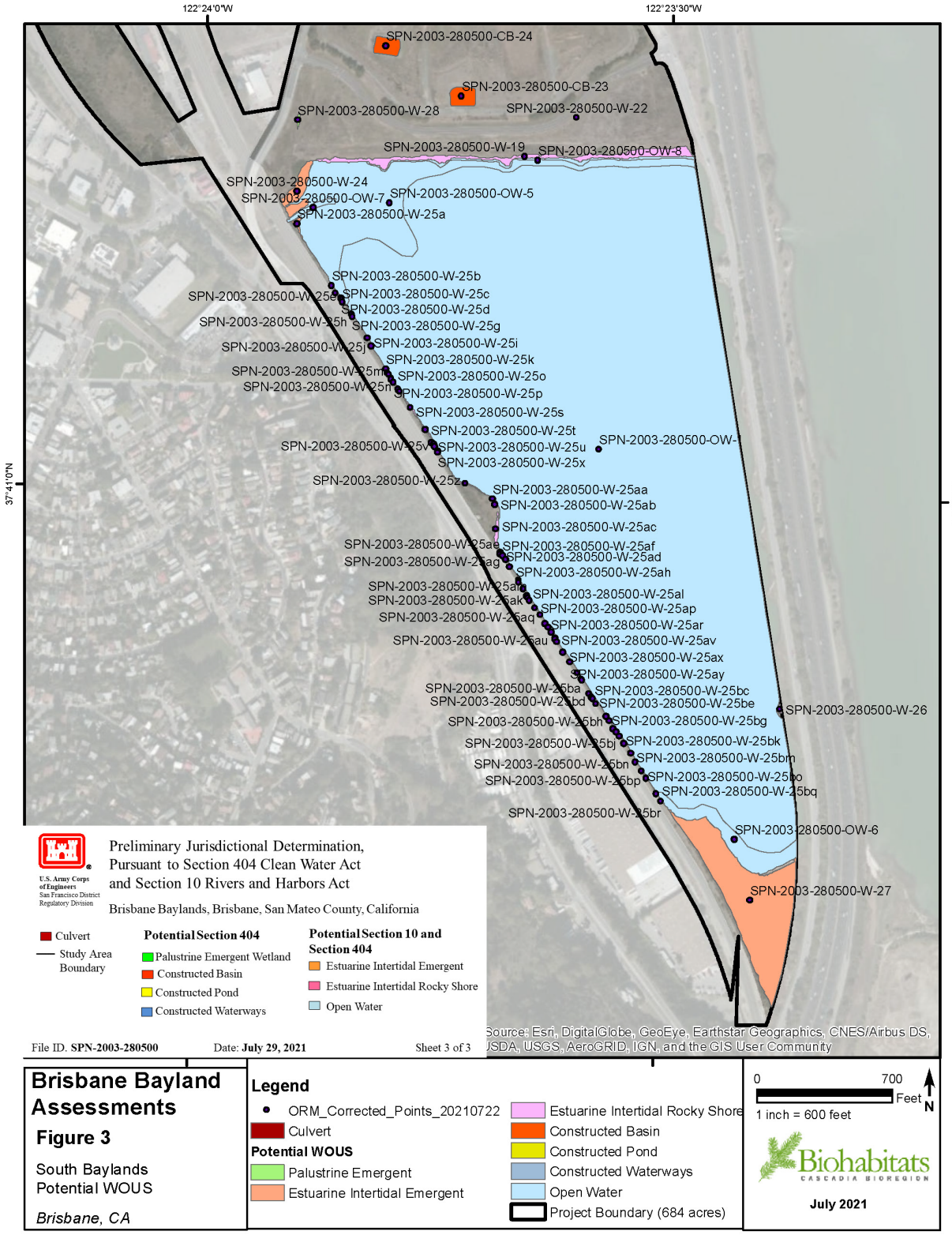
Biohabitats
CASCADIA BIOREGION
July 2021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122°23'30"W
37°41'0"N
SPN-2003-280500-CB-24
SPN-2003-280500-CB-23
SPN-2003-280500-W-28
SPN-2003-280500-W-22
SPN-2003-280500-W-19
SPN-2003-280500-OW-8
SPN-2003-280500-W-24
SPN-2003-280500-OW-7
SPN-2003-280500-OW-5
SPN-2003-280500-W-25a
SPN-2003-280500-W-25b
SPN-2003-280500-W-25c
SPN-2003-280500-W-25d
SPN-2003-280500-W-25g
SPN-2003-280500-W-25i
SPN-2003-280500-W-25k
SPN-2003-280500-W-25o
SPN-2003-280500-W-25p
SPN-2003-280500-W-25s
SPN-2003-280500-W-25t
SPN-2003-280500-W-25u
SPN-2003-280500-W-25x
SPN-2003-280500-W-25aa
SPN-2003-280500-W-25ab
SPN-2003-280500-W-25ac
SPN-2003-280500-W-25af
SPN-2003-280500-W-25ad
SPN-2003-280500-W-25ah
SPN-2003-280500-W-25al
SPN-2003-280500-W-25ap
SPN-2003-280500-W-25ar
SPN-2003-280500-W-25av
SPN-2003-280500-W-25ax
SPN-2003-280500-W-25ay
SPN-2003-280500-W-25bc
SPN-2003-280500-W-25be
SPN-2003-280500-W-26
SPN-2003-280500-W-25bg
SPN-2003-280500-W-25bk
SPN-2003-280500-W-25bm
SPN-2003-280500-W-25bo
SPN-2003-280500-W-25bq
SPN-2003-280500-W-25br
SPN-2003-280500-OW-6
SPN-2003-280500-W-27
Preliminary Jurisdictional Determination,
Pursuant to Section 404 Clean Water Act
and Section 10 Rivers and Harbors Act
Brisbane Baylands, Brisbane, San Mateo County, California
U.S. Army Corps of Engineers
San Francisco District
Regulatory Division
Culvert
Study Area Boundary
Potential Section 404
Palustrine Emergent Wetland
Constructed Basin
Constructed Pond
Constructed Waterways
Potential Section 10 and Section 404
Estuarine Intertidal Emergent
Estuarine Intertidal Rocky Shore
Open Water
File ID. SPN-2003-280500
Date: July 29, 2021
Sheet 3 of 3
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Brisbane Bayland Assessments
Figure 3
South Baylands Potential WOUS
Brisbane, CA
Legend
ORM_Corrected_Points_20210722
Culvert
Potential WOUS
Palustrine Emergent
Estuarine Intertidal Emergent
Estuarine Intertidal Rocky Shore
Constructed Basin
Constructed Pond
Constructed Waterways
Open Water
Project Boundary (684 acres)
0
700
Feet
N
1 inch = 600 feet
Biohabitats
CASCADIA BIOREGION
July 2021

5. Baylands Wetland Determination Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/18/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-1

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6987971545 Long: -122.404547291 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	3	Y	FACW
2.			
3.			
4.			
	3	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1. Salix lasiolepis	1	Y	FACW
2.			
3.			
4.			
5.			
	1	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Schoenoplectus americanus	65	Y	OBL
2. Schoenoplectus robustus	15	N	OBL
3. Distichlis spicata	10	N	FAC
4. Melilotus officinalis	5	N	FACU
5. Typha latifolia	5	N	OBL
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/2	100					LS	gravelly
5-9.5	10YR 4/1	100					LS	gravelly
9.5-14	10YR 4/2	70	10YR 5/6	30	C	M	LS	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/18/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-2

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6987457727 Long: -122.404707727 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Plantago coronopus	40	Y	FAC
2. Polypogon monspeliensis	20	Y	FACW
3. Atriplex postrata	13	N	FACW
4. Rumex crispus	2	N	FAC
5.			
6.			
7.			
8.			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 25 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 5/2	100					LS	gravelly
7-12	10YR 3/4	100					LS	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No redox concentrations apparent.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/19/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-3

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.699949 Long: -122.404647027 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. Salix lasiolepis	1	Y	FACW
2.			
3.			
4.			
5.			
	1 = Total Cover		
Herb Stratum (Plot size: 30')			
1. Distichlis spicata	40	Y	FAC
2. Melilotus officinalis	20	Y	FACU
3. Schoenoplectus robustus	15	N	OBL
4. Polypogon monspeliensis	15	N	FACW
5. Rumex crispus	5	N	FAC
6. Cyperus eragrostis	3	N	FACW
7. Typha latifolia	2	N	OBL
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No ____

Remarks:

SOIL

Sampling Point: SP-3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/2	95	5YR 4/6	5	C	PL	SL	gravelly
3-8	10YR 5/2	95	10YR 5/8	5	C	M	LS	gravelly
8-12	10YR 5/2	95	10YR 5/8	5	C	M	LS	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✔ **No** _____

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

Remarks:

Surface soil cracks are apparent in depressions left by bike tire tread.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/19/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-4

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.7006530727 Long: -122.404663764 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	60	Y	FACW
2.			
3.			
4.			
	60 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. Salix lasiolepis	10	Y	FACW
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 30')			
1. Eleocharis palustris	15	Y	OBL
2. Polypogon monspeliensis	10	Y	FACW
3. Melilotus officinalis	4	N	FACU
4. Rumex crispus	1	N	FAC
5.			
6.			
7.			
8.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/2	95	7.5YR 3/4	5	C	PL	SL	gravelly
1-13	10YR 3/2	96	5YR 5/8	4	C	M	LS	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Redox indicators clear throughout soil profile.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/19/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-5

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.7008011727 Long: -122.404622664 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1. Salix lasiolepis	5	Y	FACW
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Melilotus officinalis	73	Y	FACU
2. Polypogon monspeliensis	10	N	FACW
3. Rumex crispus	10	N	FAC
4. Cyperus eragrostis	5	N	FACW
5. Helminthotheca echioides	1	N	FAC
6. Juncus effusus	1	N	FACW
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	21	x 2 =	42
FAC species	11	x 3 =	33
FACU species	73	x 4 =	292
UPL species	0	x 5 =	0
Column Totals:	105 (A)		367 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: SP-5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					SL	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/19/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-6

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.7011619364 Long: -122.404628727 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Small patch of cattails in area with irregular topography.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Typha latifolia	94	Y	OBL
2. Polypogon monspeliensis	2	N	FACW
3. Melilotus officinalis	2	N	FACU
4. Atriplex prostrata	2	N	FACW
5.			
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No ____

Remarks:

SOIL

Sampling Point: SP-6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	95	7.5YR 4/6	5	C	PL	SL	gravelly
6-14	10YR 3/2	100						gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✔ **No** _____

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

Remarks:

Oxidized rhizospheres are apparent in upper portion of cattail roots.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/19/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-7

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.7004145791 Long: -122.40564925 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Located at "upstream" end of drainage ditch.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 25' x 25')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	30	Y	FACW
2.			
3.			
4.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 25' x 25')			
1. Salix lasiolepis	30	Y	FACW
2.			
3.			
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 25' x 25')			
1. Schoenoplectus americanus	30	Y	OBL
2. Polypogon monspeliensis	5	N	FACW
3. Atriplex prostrata	5	N	FACW
4.			
5.			
6.			
7.			
8.			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 25' x 25')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 60 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Vegetation plot sized to fit shape and size of wetland at this location.

SOIL

Sampling Point: SP-7

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2.5	10YR 2/1	90	7.5YR 3/2	10	C	PL	SL	gravelly
2.5-12	10YR 3/2	90	10YR 4/6	2	C	M	LS	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

Sandy redox is not pronounced enough (only 2%) to select S5.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✔ **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/19/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-8

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.7001078182 Long: -122.405490209 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Located at "downstream" end of drainage ditch before channel is lined.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1. Salix lasiolepis	10	Y	FACW
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Schoenoplectus americanus	35	Y	OBL
2. Distichlis spicata	35	Y	FAC
3. Atriplex prostrata	10	N	FACW
4. Salicornia depressa	10	N	OBL
5.			
6.			
7.			
8.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No ____

Remarks:

Schoenoplectus americanus forms a consistent band of vegetation around drainage ditch (~30' wide), which transitions outward into Distichlis spicata (~50' wide).

SOIL

Sampling Point: SP-8

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	95	7.5YR 4/6	5	C	PL	SL	gravelly
3-12	10YR 3/2	90	7.5YR 4/6	5	C	M	LS	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

Clear redox apparent along upper roots, becomes subtler with depth in sand-dominated matrix.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✔ **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/19/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-9

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.7004038024 Long: -122.405773166 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Swale associated with drainage ditch is approximately 14' wide in middle of the feature. This sample plot is adjacent to the swale.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1. Salix lasiolepis	10	Y	FACW
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Hordeum marinum	30	Y	FAC
2. Schoenoplectus americanus	25	Y	OBL
3. Melilotus officinalis	20	Y	FACU
4. Polypogon monspeliensis	9	N	FACW
5. Schoenoplectus robustus	1	N	OBL
6.			
7.			
8.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Side of plot adjacent to wetland is picking up OBL wetland vegetation species.

SOIL

Sampling Point: SP-9

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100					SL	gravelly
1-10	10YR 3/2	100					LS	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Petroleum smell evident from excavated soil pit. No redox apparent.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

Too far upslope to be saturated by drainage ditch.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/19/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-10

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6952536364 Long: -122.404300555 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Within drainage channel, width ~6 ft at this location.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Typha latifolia	70	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No ____

Remarks:

SOIL

Sampling Point: SP-10

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-0.1	10YR 2/2	100					muck	
0.1-16	n/a	100					muck	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

Fibrous vegetal debris with fully decomposed organic matter.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ✔ No _____ Depth (inches): <1

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

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

Wetland Hydrology Present? Yes ✔ **No** _____

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

Remarks:

Hole formed by soil auger quickly fills with water.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/19/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-11

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6953175925 Long: -122.404342947 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Along drainage channel.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. Baccharis pilularis	5	Y	NL/UPL
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 30')			
1. Brassica nigra	60	Y	NL/UPL
2. Melilotus officinalis	15	N	FACU
3. Foeniculum vulgare	7	N	NL/UPL
4. Cortaderia selloana	7	N	FACU
5. Centaurea solstitialis	6	N	NL/UPL
6.			
7.			
8.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. Rubus armeniacus	20	Y	FAC
2.			
	20 = Total Cover		

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	22	x 4 =	88
UPL species	78	x 5 =	390
Column Totals:	120 (A)		538 (B)

Prevalence Index = B/A = 4.5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: SP-11

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 4/2	100					L	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/20/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-12

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6944229818 Long: -122.400579773 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

North of wooden culvert.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. Heteromeles arbutifolia	3	Y	NL/UPL
2. Baccharis pilularis	2	Y	NL/UPL
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 30')			
1. Foeniculum vulgare	30	Y	NL/UPL
2. Helminthotheca echioides	23	Y	FAC
3. Brassica nigra	20	Y	NL/UPL
4. Hordeum marinum	10	N	FAC
5. Polypogon monspeliensis	5	N	FACW
6. Centaurea solstitialis	5	N	NL/UPL
7. Salsola soda	2	N	FACW
8.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 20 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	7	x 2 =	14
FAC species	33	x 3 =	99
FACU species	0	x 4 =	0
UPL species	60	x 5 =	300
Column Totals:	100 (A)		413 (B)

Prevalence Index = B/A = 4.1

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: SP-12

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					SL	gravelly
2-16	10YR 4/2	100					SL	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

Upslope from wetland hydrology.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/20/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-13

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6943748 Long: -122.400485909 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

North of wooden culvert.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Salicornia depressa	55	Y	OBL
2. Schoenoplectus robustus	29	Y	OBL
3. Polypogon monspeliensis	10	N	FACW
4. Salsola soda	5	N	FACW
5. Grindelia hirsutula	1	N	FACW
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 5

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No ____

Remarks:

SOIL

Sampling Point: SP-13

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/2	90	7.5YR 4/6	10	C	PL	C	
3-11	10YR 2.5/2	100					C	landfill debris

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

Numerous glass bottles and other landfill debris were encountered in soil pit.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ✔ No _____ Depth (inches): 4

Water Table Present? Yes ✔ No _____ Depth (inches): 11

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

Wetland Hydrology Present? Yes ✔ **No** _____

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

Remarks:

Water ponded in lowest portion of wetland (4" depth on 11/20/19). Upon revisiting location on 12/5/2019, 6" of ponded water was noted at same location.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/20/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-14

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6939209182 Long: -122.400517282 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

South of wooden box culvert.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1. Heteromeles arbutifolia	5	Y	NL/UPL
2. Baccharis pilularis	1	N	NL/UPL
3. Cytisus scoparius	1	N	NL/UPL
4.			
5.			
	7	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Phalaris minor	70	Y	NL/UPL
2. Helminthotheca echioides	15	N	FAC
3. Dittrichia graveolens	10	N	NL/UPL
4. Polypogon monspeliensis	3	N	FACW
5. Cortaderia jubata	2	N	FACU
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	3	x 2 =	6
FAC species	15	x 3 =	45
FACU species	2	x 4 =	8
UPL species	87	x 5 =	435
Column Totals:	107 (A)		494 (B)

Prevalence Index = B/A = 4.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Edge of biotic crust.

SOIL

Sampling Point: SP-14

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100					SL	gravelly
1-15	7.5YR 4/4	100					SL	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/20/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-15

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6939312273 Long: -122.400576 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

South of wooden box culvert.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Schoenoplectus robustus	15	Y	OBL
2. Salicornia depressa	10	N	OBL
3. Polypogon monspeliensis	5	N	FACW
4. Plantago coronopus	3	N	FAC
5. Salsola soda	2	N	FACW
6.			
7.			
8.			
	35	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 65 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Due to frequent inundation, much of ground is bare. Biotic crust apparent outside vegetation plot.

SOIL

Sampling Point: SP-15

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/3	60	7.5YR 4/6	40	C	M	C	
8-16	GLEY2 2.5/10B	95	10YR 5/8	5	C	M	C	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

Organic smell evident in lower layer.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 5

Water Table Present? Yes ___ No ✔ Depth (inches): ___

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

Wetland Hydrology Present? Yes ✔ **No** ___

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

Remarks:

Water is ponded in lowest portion of wetland. Pipes draining containment area to south generate episodic drainage into this wetland, but wetland does not extend up into drainage feature.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/20/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-16

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6942044364 Long: -122.4004855 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

South of wooden box culvert. Hole in culvert creates channel-like depression leading into this wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Salicornia depressa	30	Y	OBL
2. Hordeum marinum	15	Y	FAC
3. Salsola soda	5	N	FACW
4. Plantago coronopus	5	N	FAC
5.			
6.			
7.			
8.			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 5')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 45 % Cover of Biotic Crust 15

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No ____

Remarks:

A biotic crust forms a clear outline around the wetland. Plot was sized to a 5' radius to fit within wetland limits.

SOIL

Sampling Point: SP-16

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/2	80	7.5YR 5/8	20	C	M	SL	
5-12	10YR 5/2	70	7.5YR 5/6	30	C	M	LS	
12-14	10YR 4/2	50	5YR 5/8	50	C	M	LS	
14-18	GLEY2 2.5/5PB	100					SL	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

Bottom three layers very moist.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 5

Wetland Hydrology Present? Yes ✔ **No** ___

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

Remarks:

When revisited site on 12/5/2019, water was ponded in depression.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/20/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-17

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6941865636 Long: -122.400422264 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

South of wooden box culvert.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Hordeum marinum		80	FAC
2. Phalaris minor		7	NL/UPL
3. Dittrichia graveolens		5	NL/UPL
4. Helminthotheca echioides		3	FAC
5.			
6.			
7.			
8.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-17

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/2	100					SL	(no gravel)
2-16	10YR 3/2	100					SL	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/20/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-18

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6945433 Long: -122.400902791 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Typha latifolia	100	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes ✔ No ____**

Remarks:

SOIL

Sampling Point: SP-18

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2/1	75	5YR 5/6	25	C	M	SIL	No gravel, moist.
5-9	10YR 2/2	70	5YR 4/6	30	C	M	SIL	No gravel, moist.
9-17	GLEY2 3/10B	100					SIC	No gravel, moist.

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ✔ No _____ Depth (inches): 15.5

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

Wetland Hydrology Present? Yes ✔ **No** _____

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

Remarks:

Depression in landscape.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/20/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-19

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6945498364 Long: -122.401010145 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 30')			
1. Foeniculum vulgare	75	Y	NL/UPL
2. Helminthotheca echioides	15	N	FAC
3. Brassica nigra	8	N	NL/UPL
4. Crinum ssp (affn x powelii)	2	N	NL/UPL
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	85	x 5 =	425
Column Totals:	100 (A)		470 (B)

Prevalence Index = B/A = 4.7

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Dense, tall stand of fennel. Interface between fennel and cattail is abrupt making wetland edge readily apparent.

SOIL

Sampling Point: SP-19

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/4	100					SL	Fragments of trash debris.

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Trash from landfill distributed through soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/20/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-20

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6943487727 Long: -122.400257609 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Small area with pungent spring that upwells from eroding soil face.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Atriplex prostrata	50	Y	FACW
2. Polypogon monspeliensis	15	Y	FACW
3. Salicornia depressa	3	N	OBL
4. Rumex crispus	2	N	FAC
5.			
6.			
7.			
8.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 5')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-20

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/4	100					SL	gravelly
3-11	10YR 4/2	65	5YR 4/6	35	C	M	LS	(no gravel)
11-18	GLEY2 3/10BG	85	5YR 3/4	15	C	M	LS	(no gravel)

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

Trash from landfill distributed through soil. Strong sulfur smell. High tide line appears to correlate with gleyed soil.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 1 (spring)

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

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

Wetland Hydrology Present? Yes ✔ **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/20/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-21

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6942923182 Long: -122.400198718 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20' x 10')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	80	Y	FACW
2.			
3.			
4.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20' x 10')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 20' x 10')			
1. Helminthotheca echioides	5	Y	FAC
2. Phalaris minor	5	Y	NL/UPL
3. Foeniculum vulgare	5	Y	NL/UPL
4. Centaurea solstitialis	5	Y	NL/UPL
5.			
6.			
7.			
8.			
	20	= Total Cover	
Woody Vine Stratum (Plot size: 20' x 10')			
1. Hedera helix	4	Y	FACU
2.			
	4	= Total Cover	

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	5	x 3 =	15
FACU species	4	x 4 =	16
UPL species	15	x 5 =	75
Column Totals:	104 (A)		266 (B)

Prevalence Index = B/A = 2.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

✔ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Vegetation plot sized to fit into representative area. Willow root system may be benefiting from spring more than other plant species.

SOIL

Sampling Point: SP-21

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4.5	10YR 5/2	100					SL	gravelly
4.5-15	10YR 4/3	100					SL	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ **No** ✔

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

Remarks:

Above elevation of spring.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/20/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-22

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.7009522086 Long: -122.400740439 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

In middle of depression, part of manmade drainage feature.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5' x 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5' x 10')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5' x 10')			
1. Rumex crispus	40	Y	FAC
2. Polypogon monspeliensis	20	Y	FACW
3. Hordeum marinum	10	N	FAC
4. Cyperus eragrostis	5	N	FACW
5. Plantago coronopus	5	N	FAC
6. Dittrichia graveolens	5	N	NL/UPL
7.			
8.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 5' x 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 5

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Vegetation plot sized to fit into representative area.

SOIL

Sampling Point: SP-22

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-0.5	10YR 5/2	90	7.5YR 4/4	10	C	PL	SL	gravelly
0.5-12	10YR 5/3	100					SCL	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Soil pit dug in middle of biotic crust area.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/20/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-23

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.7002805636 Long: -122.401626209 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Ditch feature parallel to railroad tracks.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5' x 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5' x 10')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5' x 10')			
1. Dittrichia graveolens	48	Y	NL/UPL
2. Rumex crispus	2	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 5' x 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust 35

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	48	x 5 =	240
Column Totals:	50 (A)		246 (B)

Prevalence Index = B/A = 4.9

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Vegetation plot sized to fit into representative area.

SOIL

Sampling Point: SP-23

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-0.5	10YR 4/1	100					SCL	mudcracks
0.5-2.5	10YR 5/1	100					SCL	gravelly
2.5-11	10YR 3/4	100					SCL	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No redox features present. Gravel appears to be railroad ballast.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

6" of ponded water noted in depression on 12/6/2019 after rainstorm.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/21/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-24

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.696418 Long: -122.396060555 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Carpobrotus edulis	35	Y	NL/UPL
2. Helminthotheca echioides	35	Y	FAC
3. Raphanus sativus	15	N	NL/UPL
4. Centaurea solstitialis	15	N	NL/UPL
5.			
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	0	x 4 =	0
UPL species	65	x 5 =	325
Column Totals:	100 (A)		430 (B)

Prevalence Index = B/A = 4.3

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: SP-24

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	100					CL	gravelly
4-9	10YR 4/2	100					SICL	gravelly
9-15	10YR 4/2	100					C	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No redox features present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

Near tidal channel, but upslope enough to limit water content.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/21/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-25

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6963829182 Long: -122.396017382 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' x 5')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' x 5')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30' x 5')			
1. Salicornia depressa	94	Y	OBL
2. Grindelia hirsutula	2	N	FACW
3. Salsola soda	2	N	FACW
4. Schoenoplectus robustus	2	N	OBL
5.			
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30' x 5')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Vegetation plot sized to fit wetland size and shape at this location.

SOIL

Sampling Point: SP-25

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-0.25	GLEY2 2.5/5PB	100					muck	fibrous roots present
0.25-16	GLEY2 3/5B	100					muck	vegetal matter/roots present

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ✔ No ___ Depth (inches): 16

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

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/21/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-26

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6968722182 Long: -122.394323509 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

At high point between drainage channel and adjacent depression. SP established at this location to determine if the two adjacent areas should be separate or joined as a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Salicornia depressa	80	Y	OBL
2. Grindelia hirsutula	10	N	FACW
3. Salsola soda	4	N	FACW
4. Hordeum marinum	3	N	FAC
5. Polypogon monspeliensis	3	N	FACW
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Along high bench extending from top of bank.

SOIL

Sampling Point: SP-26

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	95	7.5YR 4/6	3	C	M	C	small roots present
0-4			10YR 5/8	2	C	M		
4-11	10YR 3/2	60	10YR 4/6	40	C	M	CL	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

Redox features prominent. Refusal at boulder 11" deep.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✔ **No** _____

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

Remarks:

Along tidally influenced drainage channel.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/21/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-27

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6967623273 Long: -122.394275673 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Along dry slope above wetland bench.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1. Heteromeles arbutifolia	2	Y	NL/UPL
2.			
3.			
4.			
5.			
	2	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Helminthotheca echioides	35	Y	FAC
2. Foeniculum vulgare	25	Y	NL/UPL
3. Festuca affn octoflora	25	Y	UPL
4. Avena fatua	8	N	UPL
5. Brassica nigra	5	N	NL/UPL
6. Cytisus striatus	2	N	NL/UPL
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: SP-27

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-0.5	10YR 5/2	100					L	gravelly, high organic content
0.5-12	10YR 5/2	100					CL	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Located at edge of bench along canal. Appears to be compacted from canal construction.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

Too far away from canal and upslope from depression to exhibit hydrologic indicators.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/21/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-28

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6967779182 Long: -122.394609255 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 4'W x 15'L)			
1. Avena fatua	45	Y	UPL
2. Salsola soda	20	Y	FACW
3. Grindelia hirsutula	20	Y	FACW
4. Foeniculum vulgare	10	N	NL/UPL
5. Helminthotheca echioides	5	N	FAC
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Herb stratum plot oriented parallel to canal to evaluate high berm.

SOIL

Sampling Point: SP-28

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2.5	10YR 4/2	100					SIL	gravelly, roots
2.5-11	10YR 5/3	100					SICL	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Specs of redox seen with hand lens, but <2%.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

Upslope from adjacent canal.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/21/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-29

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6967454727 Long: -122.394604718 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Within wetland depression offset from drainage channel.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 15'W x 30'L)			
1. Salsola soda	65	Y	FACW
2. Helminthotheca echioides	20	Y	FAC
3. Salicornia depressa	15	N	OBL
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No ____

Remarks:

Herb stratum plot shaped to fit within wetland area.

SOIL

Sampling Point: SP-29

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2.5	10YR 4/1	100					CL	gravelly
2.5-8.5	10YR 3/1	75	10YR 4/6	20	C	M	SIC	gravelly
8.5-13	10YR 4/2	30	10YR 5/6	60	C	M	SIL	gravelly
			7.5YR 5/8	10	C	M	SIL	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✔ **No** _____

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

Remarks:

Flow path from canal to this depression is evident.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/21/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-30

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6965794818 Long: -122.395002409 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Within wetland depression offset from drainage channel.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 10'W x 30'L)			
1. Salsola soda	85	Y	FACW
2. Helminthotheca echioides	6	N	FAC
3. Festuca sp.	6	N	UPL?
4. Hordeum marinum	3	N	FAC
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Herb stratum plot shaped to fit within wetland area and be parallel to channel.

SOIL

Sampling Point: SP-30

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4.5	10YR 4/1	100					CL	gravelly
4.5-12	10YR 3/1	25	10YR 5/8	70	C	M	CL	gravelly
			7.5YR 5/8	5	C	M	CL	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ✔ **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/21/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-31

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6966522909 Long: -122.3948147 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Transitional area of depression, east end of wetland pocket.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 10'W x 30'L)			
1. Salsola soda	50	Y	FACW
2. Festuca sp.	35	Y	UPL?
3. Helminthotheca echioides	7	N	FAC
4. Raphanus sativus	7	N	NL/UPL
5. Cyperus eragrostis	1	N	FACW
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	51	x 2 =	102
FAC species	7	x 3 =	21
FACU species	0	x 4 =	0
UPL species	42	x 5 =	210
Column Totals:	100 (A)		333 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Herb stratum plot shaped to fit within wetland area and be parallel to channel.

SOIL

Sampling Point: SP-31

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/1	100					CL	gravelly
3-12	10YR 4/1	25	10YR 5/8	70	C	M	CL	gravelly
			7.5YR 5/8	5	C	M	CL	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Transitional area. Matrix value too high to qualify as redox dark surface. Water ponded here on 12/5/2019.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/22/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-32

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6966003 Long: -122.394770945 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Transitional area of depression, east end of wetland pocket.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Helminthotheca echioides	25	Y	FAC
2. Trifolium spp	25	Y	NL/UPL
3. Avena fatua	20	Y	UPL
4. Festuca sp.	20	Y	NL/UPL
5. Raphanus sativus	6	N	NL/UPL
6. Hordeum marinum	2	N	FAC
7. Foeniculum vulgare	2	N	NL/UPL
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	27	x 3 =	81
FACU species	0	x 4 =	0
UPL species	73	x 5 =	365
Column Totals:	100 (A)		446 (B)

Prevalence Index = B/A = 4.5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:

SOIL

Sampling Point: SP-32

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-0.5	10YR 4/2	100					SIL	gravelly
0.5-14	10YR 5/3	100					SL	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/22/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-33

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6955354636 Long: -122.398498518 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Transitional area of depression, east end of wetland pocket.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Raphanus sativus	25	Y	NL/UPL
2. Carpobrotus edulis	20	Y	NL/UPL
3. Centaurea solstitialis	20	Y	NL/UPL
4. Avena fatua	10	N	UPL
5. Dittrichia graveolens	10	N	FAC
6. Hordeum marinum	5	N	FAC
7. Brassica nigra	5	N	NL/UPL
8. Foeniculum vulgare	5	N	NL/UPL
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	85	x 5 =	425
Column Totals:	100 (A)		470 (B)

Prevalence Index = B/A = 4.7

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:

SOIL

Sampling Point: SP-33

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 5/2	100					SL	gravelly
1-18	10YR 5/3	100					LS	gravelly

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/22/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-34

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6955101455 Long: -122.398488209 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

Narrow bank of pickleweed on slight shelf.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 3'W x 30'L)			
1. Salicornia depressa	100	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No ____

Remarks:

Herb stratum plot shaped to fit wetland area and positioned parallel to flow. Abrupt transition to upland vegetation adjacent to plot.

SOIL

Sampling Point: SP-34

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2.5	10YR 2/1	100					SL/muck	No gravel, tiny fibers
2.5-11	10YR 3/4	70	7.5YR 5/8	30	C	M	SL/muck	Tiny fibers
11-20	GLEY2 2.5/5PB	100					fib. muck	Many tiny fibers

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

Glass bottles and broken glass encountered throughout profile.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes ✔ No ___ Depth (inches): 17

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

Wetland Hydrology Present? Yes ✔ **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/22/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-35

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6946649455 Long: -122.399701018 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

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

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

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Centaurea solstitialis	40	Y	NL/UPL
2. Brassica nigra	40	Y	NL/UPL
3. Festuca sp.	9	N	NL/UPL
4. Avena fatua	9	N	NL/UPL
5. Rumex crispus	1	N	FAC
6. Foeniculum vulgare	1	N	NL/UPL
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	0	x 4 =	0
UPL species	99	x 5 =	495
Column Totals:	100 (A)		498 (B)

Prevalence Index = B/A = 5.0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: SP-35

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-0.5	10YR 4/2	100					LS	
0.5-9	10YR 4/4	90	7.5YR 5/8	10	C	M	LS	gravelly
9-18	10YR 5/3	50	7.5YR 5/8	50	C	M	LS	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Chroma not dark enough to qualify as sandy redox.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/22/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-36

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6946876273 Long: -122.399717491 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 8'W x 30'L)			
1. Salicornia depressa	100	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Herb stratum plot shaped to fit wetland area and positioned parallel to flow.

SOIL

Sampling Point: SP-36

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-0.25	GLEY1 2.5/N	100					muck	fibrous material
0.25-17	GLEY2 2.5/10B	95	7.5YR 4/6	5	C	M	muck	fibrous material

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ✔ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✔ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ✔ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ✔ No ___ Depth (inches): 14

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/22/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-37

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6947257818 Long: -122.401336 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	100	Y	FACW
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-37

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2.5	10YR 4/2	100					SIL	gravelly, fibrous roots
2.5-13	10YR 3/2	100					SIL	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/22/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-38

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6965202909 Long: -122.403052336 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 30')			
1. Distichlis spicata	79	Y	FAC
2. Schoenoplectus robustus	1	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-38

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/1	50	7.5YR 3/2	50	C	M	LS	gravelly
1-14	5Y 4/1	100					LS	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✔ Salt Crust (B11)
- ✔ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/22/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-39

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6965546727 Long: -122.4033842 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Adjacent to gravel road, ground very disturbed, ballast rock in irregular piles. Mounds colonized by pampas grass.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 15'W x 30'L)			
1. Melilotus officinalis	40	Y	FACU
2. Cortaderia jubata	25	Y	FACU
3. Helminthotheca echioides	5	N	FAC
4. Brassica nigra	5	N	NL/UPL
5.			
6.			
7.			
8.			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 25 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	65	x 4 =	260
UPL species	5	x 5 =	25
Column Totals:	75 (A)		300 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Herb stratum plot is shaped to fit in parallel configuration to adjacent road.

SOIL

Sampling Point: SP-39

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 5/3	100					LS	gravelly
3-15	10YR 3/4	100					LS	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ✔ Sandy Gleyed Matrix (S4)
- ✔ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Railroad ballast material evident in soil layers.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 11/22/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-40

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6965308636 Long: -122.403257282 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Transitional area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 30')			
1. Distichlis spicata	90	Y	FAC
2. Schoenoplectus robustus	5	N	OBL
3. Plantago coronopus	2	N	FAC
4. Polypogon monspeliensis	2	N	FACW
5. Atriplex prostrata	1	N	FACW
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-40

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2.5	10YR 3/3	100					SL	gravelly
2.5-4	10R 3/4	95	5YR 4/6	5	C	M	SL	gravelly
4-13	5YR 4/1	100					S	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ✔ Salt Crust (B11)
- ✔ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Biotic crust suspended in herbaceous plants.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/3/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-41

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6906534797 Long: -122.403041678 Datum:

Soil Map Unit Name: Orthents, cut and fill, 15 to 75 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

At toe of slope off of roadway (Bayshore Blvd).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 30')			
1. Helminthotheca echioides	75	Y	FAC
2. Juncus effusus	20	N	FACW
3. Rumex crispus	4	N	FAC
4. Juncus occidentalis	1	N	FACW
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-41

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	95	7.5YR 4/6	5	C	PL	SCL	gravelly
4-13	10YR 4/2	60	7.5YR 5/8	40	C	M	CL	gravelly
13-15	10YR 4/3	80	7.5YR 5/8	20	C	M	SiCL	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✔ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/3/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-42

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6907129 Long: -122.403066991 Datum:

Soil Map Unit Name: Orthents, cut and fill, 15 to 75 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Just above bench along hillslope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1. Parkinsonia aculeata	5	Y	FAC
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Stenotaphrum secundatum	60	Y	FAC
2. Raphanus sativus	15	N	NL/UPL
3. Centaurea solstitialis	10	N	NL/UPL
4. Foeniculum vulgare	4	N	NL/UPL
5. Opuntia spp.	1	N	NL/UPL
6.			
7.			
8.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Invasive grass along slope, then a clear vegetation change at the toe of slope at edge of wetland.

SOIL

Sampling Point: SP-42

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/2	100					SCL	gravelly
3-19	10YR 4/2	60					SICL	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✔ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/3/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-43

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6903931273 Long: -122.402414318 Datum:

Soil Map Unit Name: Orthents, cut and fill, 15 to 75 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

Between gravel road berm and toe of hillslope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	60	Y	FACW
2.			
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1. Salix lasiolepis	30	Y	FACW
2.			
3.			
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Eleocharis palustris	25	Y	OBL
2. Schoenoplectus californicus	25	Y	OBL
3. Typha angustifolia	20	Y	OBL
4.			
5.			
6.			
7.			
8.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-43

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/1	95	7.5YR 4/4	5	C	PL	SiCL	gravelly
3-12	10YR 4/1	60	7.5YR 4/6	40	C	M	SCL	gravelly
12-17	10YR 4/3	70	7.5YR 4/6	30	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✔ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/3/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-44

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6903814909 Long: -122.402512373 Datum:

Soil Map Unit Name: Orthents, cut and fill, 15 to 75 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Along hillslope above depression.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	50	Y	FACW
2. Acacia melanoxylon	30	N	NL/UPL
3. Heteromeles arbutifolia	20	N	NL/UPL
4.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1. Heteromeles arbutifolia	20	Y	NL/UPL
2. Salix lasiolepis	5	N	FACW
3. Acacia melanoxylon	5	N	NL/UPL
4. Parkinsonia aculeata	5	N	FAC
5.			
	35	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Helminthotheca echioides	1	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	1	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Hedera helix	1	Y	FACU
2.			
	1	= Total Cover	

% Bare Ground in Herb Stratum 99 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	1	x 3 =	3
FACU species	1	x 4 =	4
UPL species	20	x 5 =	100
Column Totals:	72 (A)		207 (B)

Prevalence Index = B/A = 2.9

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

✔ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-44

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2.5	10YR 3/2	100					CL	gravelly
2.5-20	10YR 3/3	100					CL	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/3/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-45

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6979140909 Long: -122.403132055 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1. Salix lasiolepis	10	Y	FACW
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Distichlis spicata	35	Y	FAC
2. Polypogon monspeliensis	35	Y	FACW
3. Juncus effusus	10	N	FACW
4. Plantago coronopus	5	N	FAC
5. Dittrichia graveolens	5	N	NL/UPL
6. Schoenoplectus robustus	5	N	OBL
7.			
8.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-45

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2.5	10YR 3/2	60	5YR 5/6	40	C	PL	SCL	gravelly
2.5-16	10YR 4/1	100					LS	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✔ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

Railroad ballast apparent in lower layer. Sandy material may be railyard fill.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✔ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/3/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-46

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6978944273 Long: -122.403274673 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	25	Y	FACW
2.			
3.			
4.			
	25	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Cortaderia jubata	60	Y	FACU
2. Polypogon monspeliensis	8	N	FACW
3. Plantago coronopus	6	N	FAC
4. Helminthotheca echioides	1	N	FAC
5.			
6.			
7.			
8.			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 25 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	33	x 2 =	66
FAC species	7	x 3 =	21
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	100 (A)		327 (B)

Prevalence Index = B/A = 3.3

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: SP-46

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	60	5YR 4/6	40	C	PL	SL	gravelly
3-13	10YR 4/1	100					LS	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✔ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✔ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/3/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-47

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6985654455 Long: -122.402647027 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Polypogon monspeliensis	30	Y	FACW
2. Lotus corniculatus	25	Y	FAC
3. Distichlis spicata	20	Y	FAC
4. Plantago coronopus	18	N	FAC
5. Cortaderia jubata	5	N	FACU
6. Rumex crispus	1	N	FAC
7. Helminthotheca echioides	1	N	FAC
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No ____

Remarks:

SOIL

Sampling Point: SP-47

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/2	70	5YR 4/6	30	C	PL	SL	gravelly
1-7	10YR 4/1	100					LS	gravelly
7-14	10YR 5/1	100					LS	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Top layer does not meet thickness requirement for redox depressions (F6).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✔ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/4/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-48

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.7059315727 Long: -122.395997318 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Crypsis schoenoides	50	Y	FACW
2. Eleocharis palustris	10	N	OBL
3. Dittrichia graveolens	5	N	UPL
4.			
5.			
6.			
7.			
8.			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 25

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-48

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-0.5	10YR 4/1	100					L	gravelly
0.5-14	10YR 4/2	100					LS	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No redox evident; no oxidation along pore linings.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✔ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Depression in landscape.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/4/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-49

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.7060026091 Long: -122.3959187 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Elymus triticoides	60	Y	FAC
2. Lotus corniculatus	25	Y	FAC
3. Rumex crispus	5	N	FAC
4. Dittrichia graveolens	2	N	UPL
5. Helminthotheca echioides	2	N	FAC
6. Polypogon monspeliensis	2	N	FACW
7. Hordeum marinum	2	N	FAC
8. Plantago coronopus	2	N	FAC
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-49

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1.5	10YR 2/2	100					SL	gravelly
1.5-14	10YR 4/1	100					LS	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No redox evident; no oxidation along pore linings.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Outside of depression.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/4/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-50

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6882734364 Long: -122.392026473 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 25' x 25')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 25' x 25')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 25' x 25')			
1. Distichlis spicata	70	Y	FAC
2. Salsola soda	10	N	FACW
3. Grindelia hirsutula	5	N	FACW
4. Limonium californicum	5	N	FACW
5.			
6.			
7.			
8.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: 25' x 25')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Sampling plot sized to fit within wetland area.

SOIL

Sampling Point: SP-50

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					SL	gravelly
2-6	10YR 4/2	98	7.5YR 4/6	2	C	M	LS	gravelly
6-14	10YR 4/1	60	5YR 4/6	20	C	M	LS	gravelly
			7.5YR 5/8	20	C	M		
14-17	10YR 2/1	100					SL	gravelly, strong petroleum smell

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ✔ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

Petroleum fumes apparent as reached bottom of pit. Landfill trash and glass in pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✔ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ✔ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ✔ No ___ Depth (inches): 0.5

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Tidal debris lines evident and include this area.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/4/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-51

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6883107455 Long: -122.392006982 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Raphanus sativus	75	Y	NL/UPL
2. Foeniculum vulgare	10	N	NL/UPL
3. Elymus mollis	10	N	FACU
4. Grindelia hirsutula	5	N	FACW
5.			
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	100	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	5	x 2 =	10
FAC species		x 3 =	
FACU species	10	x 4 =	40
UPL species	85	x 5 =	425
Column Totals:	100 (A)		475 (B)

Prevalence Index = B/A = 4.75

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: SP-51

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-0.25	n/a	100					n/a	fibrous organic matter
0.25-14	10YR 3/3	100					LS	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Refusal at bottom of pit may be riprap. Some landfill trash encountered. Soil very disturbed so lacking developed profile.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/4/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-52

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6881310364 Long: -122.393922182 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✔, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Soils very disturbed, fill material with riprap/rocks.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20' x 20')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20' x 20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 20' x 20')			
1. Salicornia depressa	35	Y	OBL
2. Grindelia hirsutula	10	Y	FACW
3. Limonium duriusculum	6	N	NL/UPL
4. Salsola soda	6	N	FACW
5. Plantago coronopus	3	N	FAC
6.			
7.			
8.			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 20' x 20')			
1.			
2.			
	100	= Total Cover	

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Sampling plot sized to fit existing wetland along shoreline.

SOIL

Sampling Point: SP-52

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-0.25	n/a	100					n/a	fibrous organic matter
0.25-2.5	10YR 4/1	100					SL	gravelly
2.5-15	7.5YR 4/4	90	7.5YR 5/3	10	C	M	SL	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ **No** ✔

Remarks:

Problematic soils limiting hydric soil indicator development.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ✔ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/4/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-53

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6881868182 Long: -122.393893418 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Problematic soils, very disturbed fill material with riprap/rocks.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 30')			
1. Foeniculum vulgare	95	Y	NL/UPL
2. Dittrichia graveolens	3	N	NL/UPL
3. Centaurea solstitialis	2	N	NL/UPL
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: SP-53

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/1	100					SIL	gravelly
1-12	10YR 4/2	100					SCL	gravelly, rubble/fill material

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Too rocky to excavate deeper, may be hitting riprap layer.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ✔ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/5/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-54

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6993318455 Long: -122.405016691 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Immediately east of gravel road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 30')			
1. Distichlis spicata	80	Y	FAC
2. Schoenoplectus robustus	10	N	OBL
3. Cyperus eragrostis	5	N	FACW
4. Lotus corniculatus	2	N	FAC
5. Polypogon monspeliensis	1	N	FACW
6. Rumex crispus	1	N	FAC
7. Melilotus officinalis	1	N	FACU
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Biotic crust outside of sample plot area.

SOIL

Sampling Point: SP-54

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4.5	10YR 3/2	90	7.5YR 4/4	10	C	PL	SL	gravelly
4.5-9.5	5Y 4/1	100					LS	gravelly
9.5-12	5Y 3/1	100					SL	gravelly
12-16	10YR 4/1	100					LS	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✔ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✔ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✔ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Depressions left by motor bikes display mud cracks and a biotic crust.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/5/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-55

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.7000337364 Long: -122.4049495 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Immediately east of gravel road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Distichlis spicata	70	Y	FAC
2. Eleocharis palustris	20	Y	OBL
3. Schoenoplectus robustus	4	N	OBL
4. Polypogon monspeliensis	3	N	FACW
5. Lotus corniculatus	2	N	FAC
6. Rumex crispus	1	N	FAC
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	100	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-55

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	90	7.5YR 4/4	10	C	PL	SL	gravelly
4-9	10YR 3/2	95	7.5YR 4/4	5	C	PL	LS	gravelly, includes ballast rock
9-15	10YR 3/2	100					LS	gravelly, includes ballast rock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✔ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✔ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/6/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-56

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.7012700636 Long: -122.404645782 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Melilotus officinalis	83	Y	FACU
2. Atriplex prostrata	15	N	FACW
3. Typha angustifolia	2	N	OBL
4.			
5.			
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	100	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	83	x 4 =	332
UPL species	0	x 5 =	0
Column Totals:	100 (A)		364 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Transitional area, Typha slowly invading far end of transect.

SOIL

Sampling Point: SP-56

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	98	7.5YR 4/6	2	C	PL	LS	gravelly, includes ballast rock
4-15	10YR 3/1	100	7.5YR 4/4					gravelly, includes ballast rock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/6/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-57

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6996004455 Long: -122.401603927 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

In drainage ditch along railroad.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 30')			
1. Typha latifolia	100	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	100	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-57

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4.5	10YR 3/2	96	5YR 4/6	3	C	PL	SICL	gravelly
			7.5YR 4/6	1	C	M		
4.5-12	5YR 4/2	100					CL	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✔ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✔ Water Marks (B1) (**Nonriverine**)
- ✔ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✔ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo County Sampling Date: 12/6/2019

Applicant/Owner: United Paragon Corporation State: CA Sampling Point: SP-58

Investigator(s): Ellen McClure & Juan Rovalo Section, Township, Range:

Landform (hillslope, terrace, etc.): placed fill Local relief (concave, convex, none): linear Slope (%): 0

Subregion (LRR): n/a Lat: 37.6996005455 Long: -122.401510627 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

In drainage ditch along railroad.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20' x 20')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20' x 20')			
1. Baccharis pilularis	20	Y	NL/UPL
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 20' x 20')			
1. Raphanus sativus	80	Y	NL/UPL
2. Brassica nigra	10	N	NL/UPL
3. Acanthus sp.	4	N	NL/UPL
4. Foeniculum vulgare	3	N	NL/UPL
5. Cortaderia jubata	3	N	NL/UPL
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 20' x 20')			
1.			
2.			
	100	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	100 (A)		500 (B)

Prevalence Index = B/A = 5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Sampling plot sized to fit area along hillslope.

SOIL

Sampling Point: SP-58

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-0.25	n/a						n/a	organic matter
0.25-20	10YR 3/2	100					CL	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✔ Water Marks (B1) (**Nonriverine**)
- ✔ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✔ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo Sampling Date: 1 May 2020

Applicant/Owner: Universal Paragon Corporation State: CA Sampling Point: SP-59

Investigator(s): Juan Rovalo & Susan Sherrod Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): Lat: 37°41'27.2"N Long: 122°24'06.5"W Datum:

Soil Map Unit Name: urban land orthents, reclaimed complex, 0-2% slopes NWI classification: no hydrologic feature

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

Possibly a small area where soil has subsided. Land use history is landfill.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Festuca perennis	8	yes	FAC
2. Polypogon monspeliensis	5	yes	FACW
3. [Brassicaceae sp.]	2	no	
4.			
5.			
6.			
7.			
8.			
	15 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust 85

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: SP-59

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10 YR 3/1	93	10 YR 5/8	7	C	M	sandy clay	v. gravelly
8-14	10 YR 3/1	80	10 YR 5/6	20	C	M	sandy clay	v. gravelly
14-20	7.5 YR 4/1	35	5 YR 5/8	65	C	M	sand cly ln	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ✔ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✔ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo Sampling Date: 1 May 2020

Applicant/Owner: Universal Paragon Corporation State: CA Sampling Point: SP-60

Investigator(s): Juan Rovalo & Susan Sherrod Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): Lat: 37°41'27.2"N Long: 122°24'06.5"W Datum:

Soil Map Unit Name: urban land orthents, reclaimed complex, 0-2% slopes NWI classification: no hydrologic feature

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Land use history is landfill.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Festuca perennis	47	yes	FAC
2. Avena sativa	47	yes	UPL
3. Hordeum murinum	5	no	FACU
4. Lactuca serriola	1	no	FACU
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: SP-60

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5 YR 4/1	100					sandy clay	<1" A horizon

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo Sampling Date: 1 May 2020

Applicant/Owner: Universal Paragon Corporation State: CA Sampling Point: SP-61

Investigator(s): Juan Rovalo & Susan Sherrod Section, Township, Range:

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): toe of slope Slope (%): 0

Subregion (LRR): Lat: 37°41'27.2"N Long: 122°24'06.5"W Datum:

Soil Map Unit Name: Orthents, cut and fill, 15-75% slopes NWI classification: no hydrologic feature

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✔	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:

Water collects upslope of a berm at the toe of a slope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1. Heteromeles arbutifolia	5	yes	-
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 10' fringe)			
1. Hordeum murinum	20	yes	FACU
2. Polypogon monspeliensis	15	yes	FACW
3. Avena sativa	10	no	UPL
4. Rumex crispus	2	no	FAC
5. Erodium botrys	1	no	FACU
6. Carduus pycnocephalus	1	no	-
7. Bromus diandrus	1	no	-
8. Plantago lanceolata	1	no	FAC
	51	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 44 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	15	x 2 =	30
FAC species	3	x 3 =	9
FACU species	21	x 4 =	84
UPL species	17	x 5 =	85
Column Totals:	56 (A)		208 (B)

Prevalence Index = B/A = 3.7

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:

SOIL

Sampling Point: SP-61

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	2.5YR 5/3	70	5YR 4/6	27	C	M	sandy clay	
			5YR 2.5/1	3	C	M		
6-15	10YR 4/4	100					sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Brisbane Baylands City/County: San Mateo Sampling Date: 1 May 2020

Applicant/Owner: Universal Paragon Corporation State: CA Sampling Point: SP-62

Investigator(s): Juan Rovalo & Susan Sherrod Section, Township, Range:

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): toe of slope Slope (%): 0

Subregion (LRR): Lat: 37°41'27.2"N Long: 122°24'06.5"W Datum:

Soil Map Unit Name: Orthents, cut and fill, 15-75% slopes NWI classification: no hydrologic feature

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Water has ponded upslope of berm at toe of slope. Not considered a wetland because vegetative cover is <5%. Hydric soil indicators tentative (see notes).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	2 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: SP-62

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10 YR 4/3	29	2.5 Y 5/3	35	D	M	sandy clay	appears to be a vein of Mn
			10 YR 5/8	35	C	M		depletion through entire
			10 YR 2/1	1	C	M		profile
8-14	10 YR 4/4	49	2.5 Y 5/3	25	D	M	sandy clay	
			10 YR 3/6	25	C	M		
			10 YR 2/1	1	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ✔ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Conclusion tentative based on S6 description, which provides color guidelines but no requirements. Profile indicates a vein of depletion but chroma values of 3 seem higher than suggested for a stripped matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✔ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 5

Water Table Present? Yes ___ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: BAYLANDS City/County: San Mateo County Sampling Date: 22 July 2022

Applicant/Owner: Baylands Development Inc. State: CA Sampling Point: SP 63 2

Investigator(s): Susan Sherrod & Juan Rovalo Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Placed fill Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: 37.688 Long: -122.397 Datum: _____

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	did not dig pit	
Wetland Hydrology Present?	Yes _____ No X	

Remarks: Addressing 2016 delineation pt FEM 02972. Does not meet hydrology requirements.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Lolium perenne	90	yes	FAC
2. Hordeum murinum Marinum	9	no	FACU
3. Oatgrass Avena fatua/sativa	1	no	UPL
4.			
5.			
6.			
7.			
8.			
Total Cover: 100			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: SP-63

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: Did not dig pit for evaluation b/c hydrology indicators not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: BAYLANDS City/County: San Mateo County Sampling Date: 22 JULY 2020

Applicant/Owner: WPC Baylands Development Inc. State: CA Sampling Point: SP-64

Investigator(s): JUAN POVATO SUSAN SHEPPOD Section, Township, Range: WETLAND

Landform (hillslope, terrace, etc.): Placed fill Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: 37.6879 Long: -122.3981 Datum: _____

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks: NW Lagoon

VEGETATION

Tree Stratum (Use scientific names.) Radius 5m from pit

	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	80	yes	FACW
2.			
3.			
4.			
Total Cover:			

Sapling/Shrub Stratum

1.			
2.			
3.			
4.			
5.			
Total Cover:			

Herb Stratum Radius 2m from pit

1. Salicornia pacifica	100	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100		

Woody Vine Stratum

1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: Salicornia marsh transitions to willow

SOIL

Sampling Point: SP-64

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) WETLAND

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-12	GLEY 1 2.5/10Y	100%					loam	V. organic
								Roots to 2"

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- X Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- X Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 0 (at surface)

Water Table Present? Yes X No _____ Depth (inches): 8"

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Marsh wetland.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: BAYLANDS City/County: San Mateo County Sampling Date: 22 JULY 2020

Applicant/Owner: UPC Baylands Development Inc. State: CA Sampling Point: SP 65 J UPLAND

Investigator(s): JUAN PONCE SUSAN SHEPPOD Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: 37.688 Long: -122.398 Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	did not dig pit	
Wetland Hydrology Present?	Yes ____ No X	

Remarks: NW Lagoon

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. (Fennel) Foeniculum vulgare	40	yes	–
2.			
3.			
4.			
5.			
Total Cover: 40			
Herb Stratum			
1. Avena Sativa	70	yes	UPL
2. Wild radish Raphanus raphanistrum	5	no	–
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover: 75			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species –	x 1 =	
FACW species –	x 2 =	
FAC species –	x 3 =	
FACU species –	x 4 =	
UPL species 115	x 5 =	575
Column Totals: 115 (A)		575 (B)

Prevalence Index = B/A = 5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: SP 65

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) UPLAND

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators.

SP68 & 69 Upland

Adjacent to truck wash, west of interior road

Veg: cattail monoculture (~75% cover).

Hydrology: likely subsidized from truck wash. No Arid West indicators.

Soil: 0-10” sandy, no redox, no organic matter, unconsolidated

SP68 Lat: 37.7014, Long: -122.3943
SP69 Lat: 37.7009, Long: -122.3942

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: BAYLANDS City/County: San Mateo County Sampling Date: 26 AUG '20

Applicant/Owner: Baylands Development Inc. State: CA Sampling Point: SP 70

Investigator(s): Susan Sherrod & Juan Rovalo Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Placed fill Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: 37.6997 Long: -122.3940 Datum: _____

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes X No _____	

Remarks: Roadside ditch. Water from road & adj slope runoff

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Typha latifolia	100	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: SP 70

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8) NO
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: Considered F8 but applies only to upper 4" in depressions subject to ponding e.g. playas, Vernal pools, rainw basins. Redox features are not 5%. Loamy clay.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: BAYLANDS City/County: San Mateo County Sampling Date: 26 AUG '20

Applicant/Owner: Baylands Development Inc. State: CA Sampling Point: SP 71

Investigator(s): Sherrod - Rovalo Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Placed fill Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: 37.6911 Long: -122.3927 Datum: _____

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks: Wetland is at a low pt b/t 2 roads, one unpaved. "Soil" is from stormwater sediment load.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Rumex crispus	20	yes	FAC
2. Distichlis spicata	8	yes	FACW
3. Cyperus eragrostis	3	no	FACW
4. Polypogon monspeliensis	19	yes	FACW
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 60 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: SP 71 wetland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4.5	GLEY 1 3/1	95	7.5 YR 6/8	5	C	M	clay	
4.5-13	10 YR 3/2	75	2.5 YR 3/6	25	C	M	loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- X Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- X Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- X Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: BAYLANDS City/County: San Mateo County Sampling Date: 26 AUG '20

Applicant/Owner: Baylands Development Inc. State: CA Sampling Point: SP-72

Investigator(s): Rosula-Shenoi Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Placed fill Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: 37.6911 Long: -122.3926 Datum: _____

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Hordeum murinum	96		FACU
2. Dittrichia graveolens	3		FACU
3. Lactuca Serriola	1		FACU
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: SP-72

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	2.5Y 3/1	100					Sand	mostly gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: BAYLANDS City/County: San Mateo County Sampling Date: 26 AUG '20

Applicant/Owner: Baylands Development Inc. State: CA Sampling Point: SP 73

Investigator(s): Povalo - Sherrod Section, Township, Range: Cattail - Tracks

Landform (hillslope, terrace, etc.): Placed fill Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: 37.6974 Long: -122.4016 Datum: _____

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes X No _____	

Remarks: Likely a wetland in development. Cattails are denser than in 2019

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Typha latifolia	100	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: SP-73

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	7.5 yR 3/1	100					loam	lots of glass
9-16	10 yR 3/3	100					loamy Sand	substantial gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- X Salt Crust (B11)
- ___ Biotic Crust (B12)
- Y Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Baylands City/County: San Mateo County Sampling Date: 26 AUG '20

Applicant/Owner: Baylands Development Inc. State: CA Sampling Point: SP 74

Investigator(s): Sherrod / Roval O Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Placed fill Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: 37.6958 Long: -122.4016 Datum: _____

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Schoenoplectus pungens	95	yes	OBL
2. " (cosmopolitan?)	4		
3. Bristle ox-tongue	1		
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes Y No _____

Remarks:

SOIL

Sampling Point: SP-74

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 3/1	100					no texture – too much glass	
							probably clay - loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- X Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SP8 (15) changed 10/30/20

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: BAYLANDS City/County: San Mateo County Sampling Date: 25 AUG '20 4:05 p

Applicant/Owner: Baylands Development Inc. State: CA Sampling Point: S. MARSH Wetland (lagoon)

Investigator(s): Sherwood - Roval. Section, Township, Range: ______

Landform (hillslope, terrace, etc.): Placed fill Local relief (concave, convex, none): ______ Slope (%): ______

Subregion (LRR): ______ Lat: 37.6762 Long: -122.3895 Datum: ______

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification: ______

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ______ (If no, explain in Remarks.)

Are Vegetation ______, Soil ______, or Hydrology ______ significantly disturbed? No Are "Normal Circumstances" present? Yes X No ______

Are Vegetation ______, Soil ______, or Hydrology ______ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ______	Is the Sampled Area within a Wetland? Yes X No ______
Hydric Soil Present?	Yes X No ______	
Wetland Hydrology Present?	Yes X No ______	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Salicornia depressa	~~95~~ 100	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ______ % Cover of Biotic Crust ______

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	100	x 1 = 100
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	100 (A)	100 (B)

Prevalence Index = B/A = 1

Hydrophytic Vegetation Indicators:

__ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No ______

Remarks:
Veg represents area immediately around soil pit

SOIL

Sampling Point: S. MARSH (lagoon) wetland

SP-75

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-2	7.5YR 2.5/1	100					humic root mat	many roots throughout
2-14	GLEY 2 4/1	50			RM		loamy clay	gleyed matrix
			7.5YR 4/6	50	C	M		shell fragments throughout

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- X Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

All, F2, and F3 all call for depleted matrix occupying ≥60% of the layer. These soils are judged to qualify because the other 50% is redox concentrations.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- X Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): 18"

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 0"

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SP 83 (76) changed 10.30.20

4:17p

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Baylands City/County: San Mateo County Sampling Date: 25 AUG 2020

Applicant/Owner: Baylands Development Inc. State: CA Sampling Point: S. Lagoon marsh Upland

Investigator(s): Rovaes · Sherrod Section, Township, Range:

Landform (hillslope, terrace, etc.): Placed fill Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Lat: 37.6762 Long: -122.3896 Datum:

Soil Map Unit Name: Urban land-Orthents, reclaimed complex, 0 to 2 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? NO Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. Coyote bush	60%		
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6. fennel			
7. Canada wildrye Elymus canadensis			
8. thistle (Senesced)			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: S. MARSH (LAGOON) upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) SP-76

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	2.5 Y 4/3	100					Sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SP 77 (“NE-1” on field notes)

Ravine spanning NE road that runs between piles. Point is to west of road.

Veg: Senesced Eleocharis palustris, Polypogon monspeliensis, Some Cyperus a couple of feet above bottom of ravine, Xanthium strumarium, Helminthotheca echioides, Rumex crispus, Salix lasiolepis.

Hydrology: No Arid West indicators

Soil: 7.5” core. No indicators.

Lat: 37.7005, Long: -122.3973

SP 78 (“NE-2 on field notes)

Ravine spanning NE road that runs between piles. Point is to east of road.

Veg: Polypogon monspeliensis, Dittrichia graveolens (UPL), Xanthium strumarium, Helminthotheca echioides, Rumex crispus.

Hydrology – No Arid West indicators.

Soil: No indicators. Pocket gopher activity (pocket gopher activity is usually limited if no restricted in wetlands).

Lat: 37.7007, Long: -122.3957

SP79

Area behind the Mission Blue Nursery.

Veg: Senesced Dittrichia graveolens, senesced Hordeum marinum (FAC), Helminthoteca echioides.

Hydrology: No Arid West Indicators.

Soil: 9” pit. No indicators.

Lat: 37.6885, Long: -122.4011

SP80

Point South of W-1 (Addressing HSR-FEM-02888)

Veg: Helminthoteca echioides, Rumex crispus, Lotus corniculatus, Carduus pycnocephalus, and Hordeum marinum.

Hydrology: No Arid West Indicators.

Soil: 6” pit. No indicators.

Lat: 37.6973, Long: -122.4041

SP81 & 82

Points inside fence to the west with evident spill of semi-hardened hydrocarbon tar-like material.

Veg: Senesced Dittrichia graveolens, Distichlis spicata, some patches of Cyperus eragrostis and Cynodon dactylon.

Hydrology: No Arid West Indicators.

Soil: no pit was excavated.

SP81 Lat: 37.6993, Long: -122.4056
SP82 Lat: 37.6997, Long: -122.4059

SP83

Inside the round house concrete structure (Where the machinery to turn the train cars used to be)

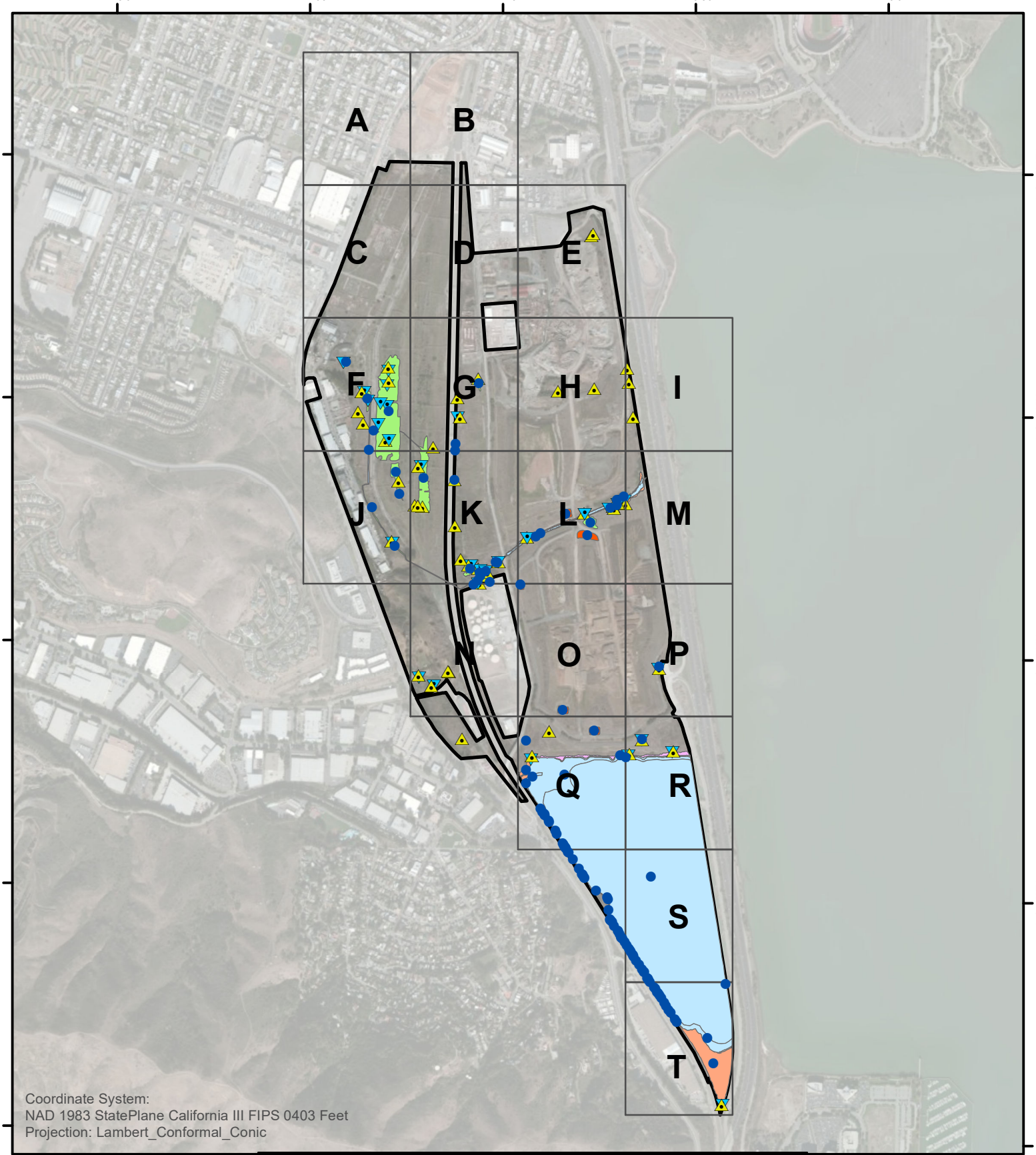
Veg: Typha latifolia.

Hydrology: Saturation

Soil: No soil was found only cattail roots and decomposed organic matter.

Lat: 37.70140, Long: -122.4065

6. Baylands wetland delineation maps with 1 inch = 200 ft.
Figures A to T



Brisbane Bayland Assessments

Figures A - T

South Baylands
Potential WOUS

Brisbane, CA

- Wetland
- Biohabitats Soil Pits
- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert
- **Potential WOUS**
- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

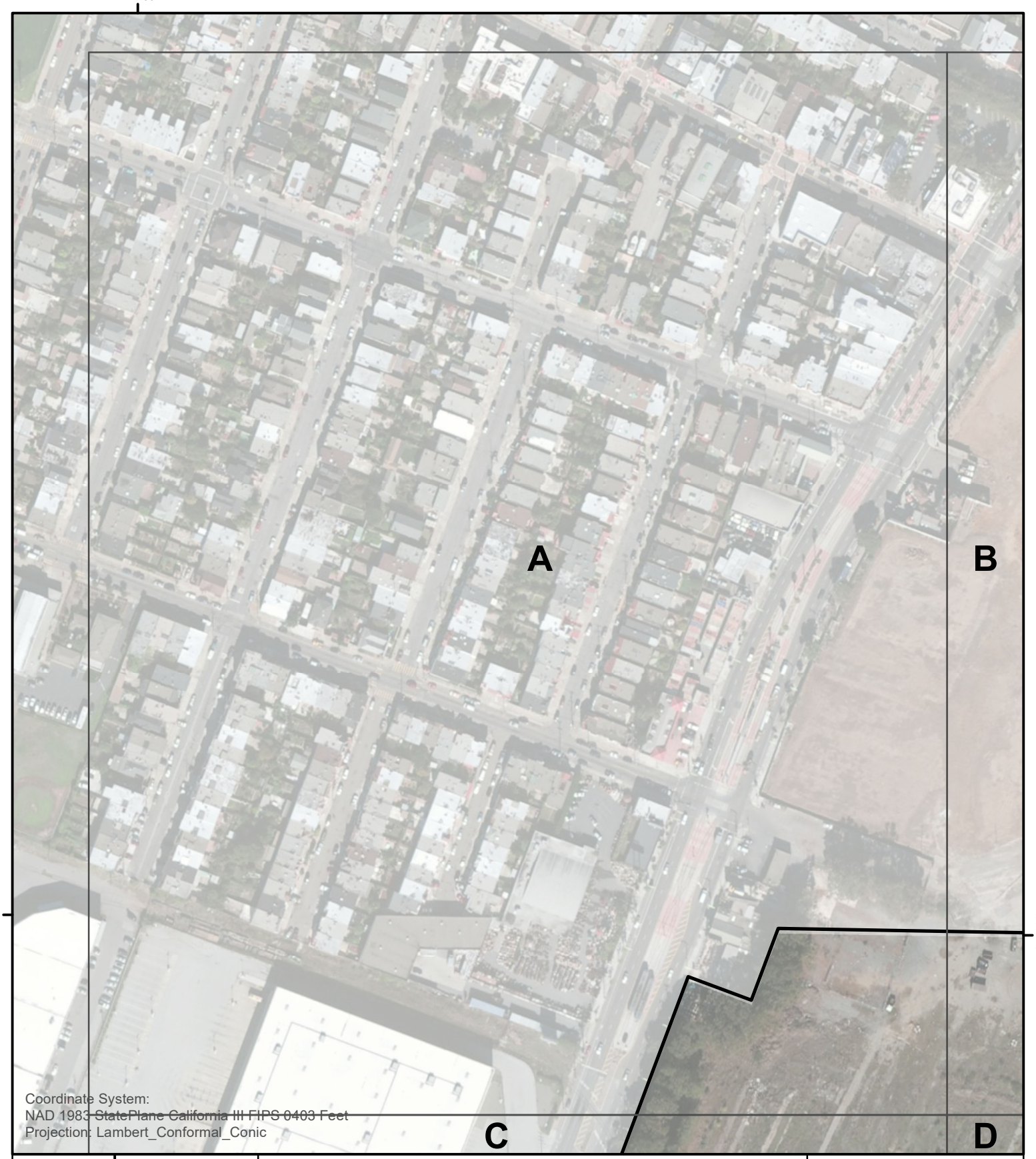
0 1,000 Feet

1 inch = 1,600 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021



Brisbane Bayland Assessments

Figure A

South Baylands
Potential WOUS

Brisbane, CA

- Wetland

Biohabitats Soil Pits

- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert

Potential WOUS

- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

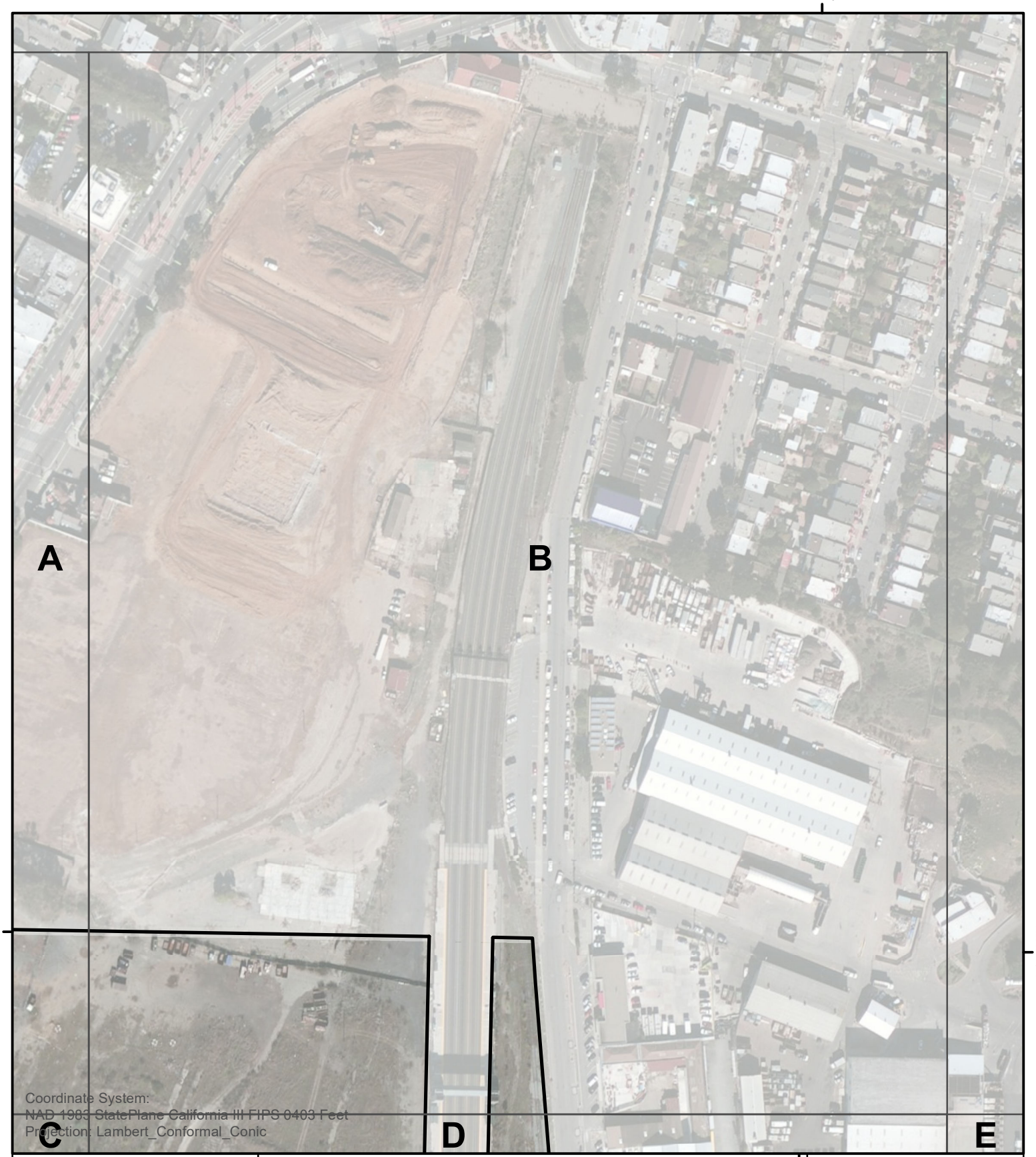
0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021



Brisbane Bayland Assessments

Figure B

South Baylands
Potential WOUS

Brisbane, CA

- Wetland

Biohabitats Soil Pits

- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert

Potential WOUS

- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021

Brisbane Bayland Assessments

Figure C

South Baylands
Potential WOUS

Brisbane, CA

- Wetland

Biohabitats Soil Pits

- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert

Potential WOUS

- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

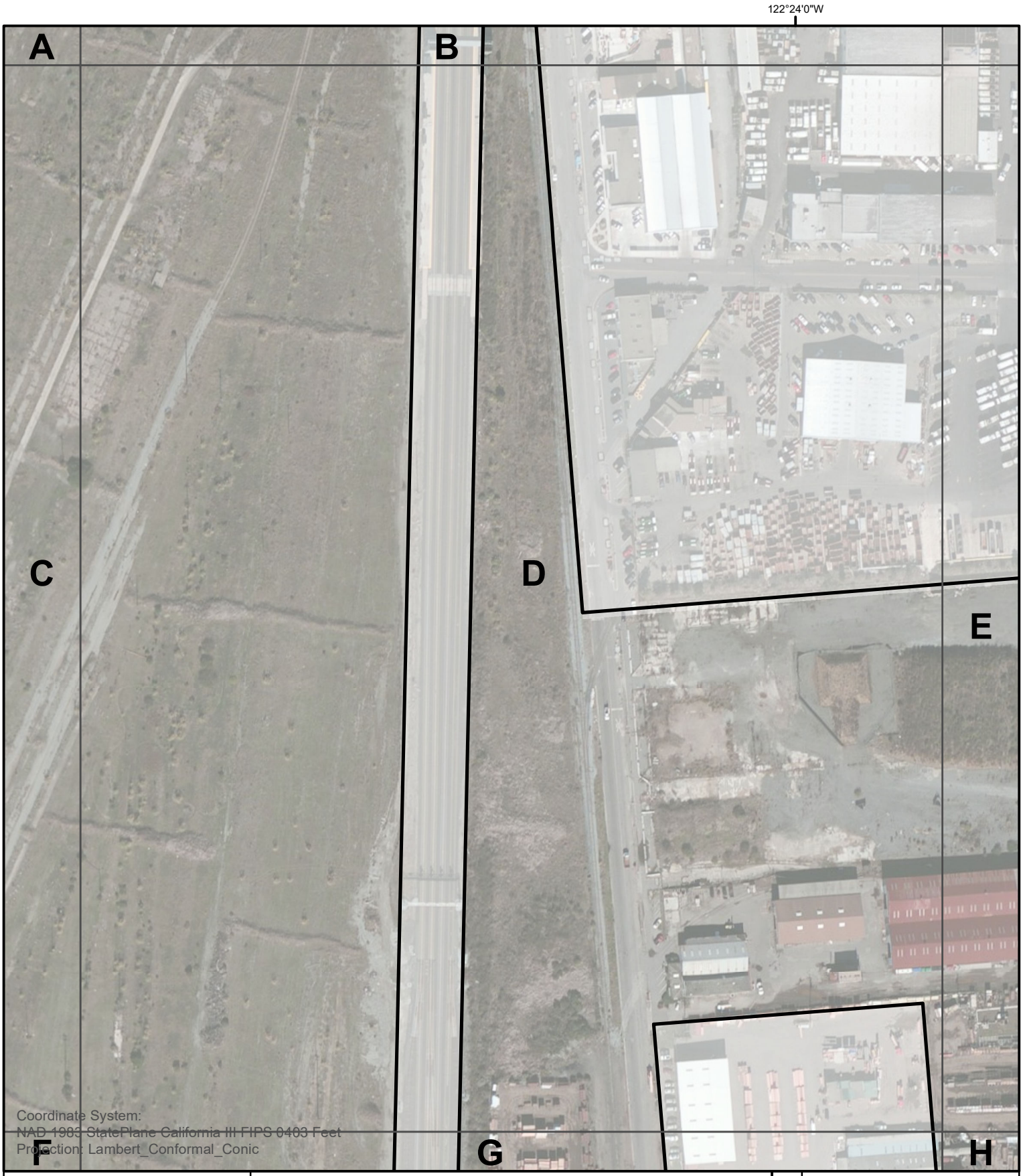
0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021



Brisbane Bayland Assessments

Figure D

South Baylands
Potential WOUS

Brisbane, CA

- Wetland

Biohabitats Soil Pits

- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert

Potential WOUS

- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021

Brisbane Bayland Assessments

Figure E

South Baylands
Potential WOUS

Brisbane, CA

- Wetland
- Biohabitats Soil Pits
- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert
- **Potential WOUS**
- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

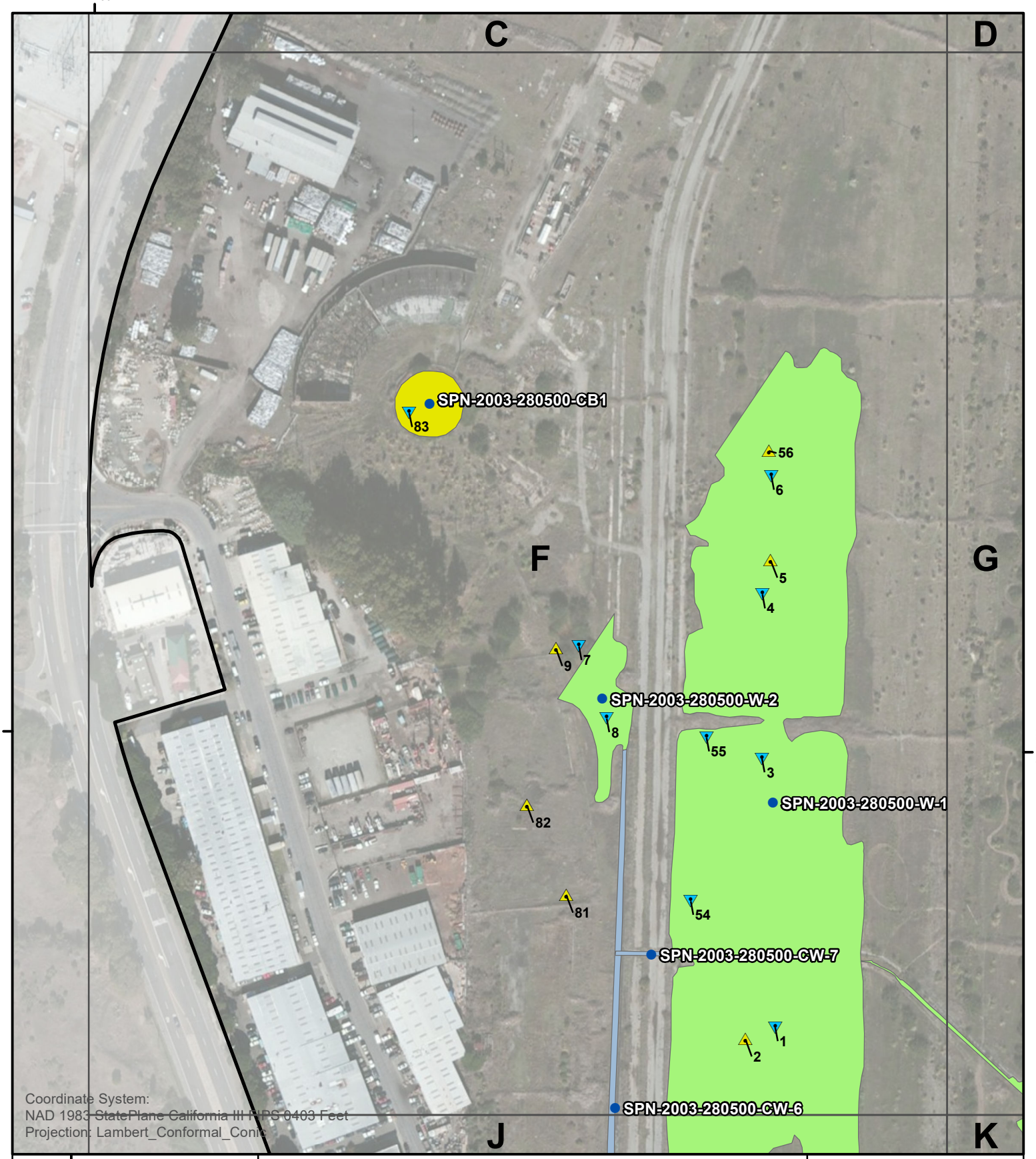
0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021



Brisbane Bayland Assessments

Figure F

South Baylands
Potential WOUS

Brisbane, CA

Wetland
Biohabitats Soil Pits
Upland Soil Pit (50 pits)
Wetland Soil Pit (31 pits)
Culvert

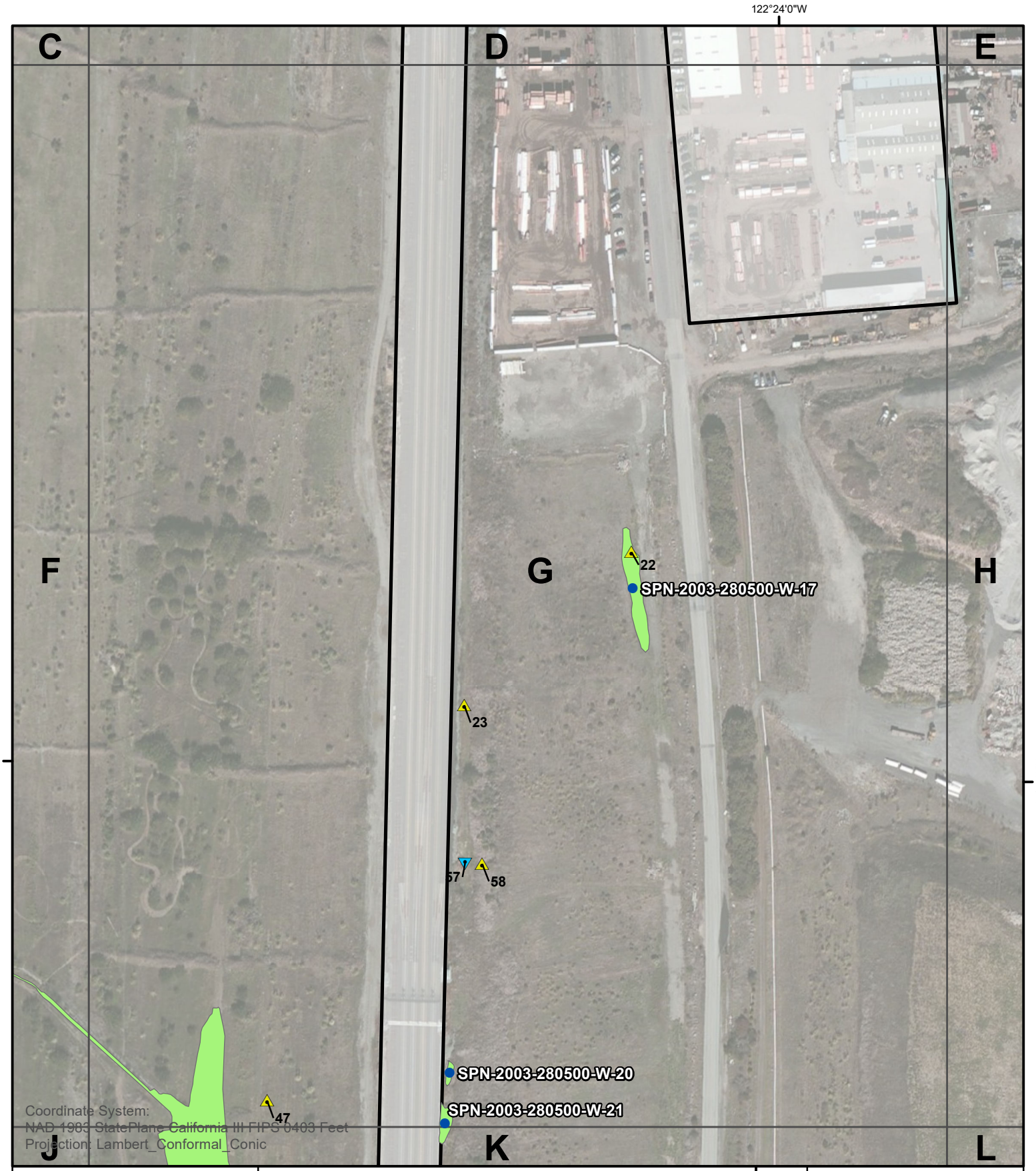
Potential WOUS

Palustrine Emergent
Estuarine Intertidal Emergent
Estuarine Intertidal Rocky Shore
Constructed Basin
Constructed Pond
Constructed Waterways
Open Water
Study Area

0 200 Feet
1 inch = 200 feet
N

Biohabitats
CASCADIA BIOREGION

September 2021



Brisbane Bayland Assessments

Figure G

South Baylands
Potential WOUS

Brisbane, CA

- Wetland

Biohabitats Soil Pits

- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert

Potential WOUS

- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021

Coordinate System:
NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert_Conformal_Conic

Brisbane Bayland Assessments

Figure H

South Baylands
Potential WOUS

Brisbane, CA

- Wetland

Biohabitats Soil Pits

- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert

Potential WOUS

- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021

Brisbane Bayland Assessments

Figure I

South Baylands
Potential WOUS

Brisbane, CA

Wetland
Biohabitats Soil Pits
Upland Soil Pit (50 pits)
Wetland Soil Pit (31 pits)
Culvert
Potential WOUS
Palustrine Emergent
Estuarine Intertidal Emergent
Estuarine Intertidal Rocky Shore
Constructed Basin
Constructed Pond
Constructed Waterways
Open Water
Study Area

0 200 Feet
1 inch = 200 feet
N

Biohabitats
CASCADIA BIOREGION

September 2021

Brisbane Bayland Assessments

Figure J

South Baylands
Potential WOUS

Brisbane, CA

- Wetland

Biohabitats Soil Pits

- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert

Potential WOUS

- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

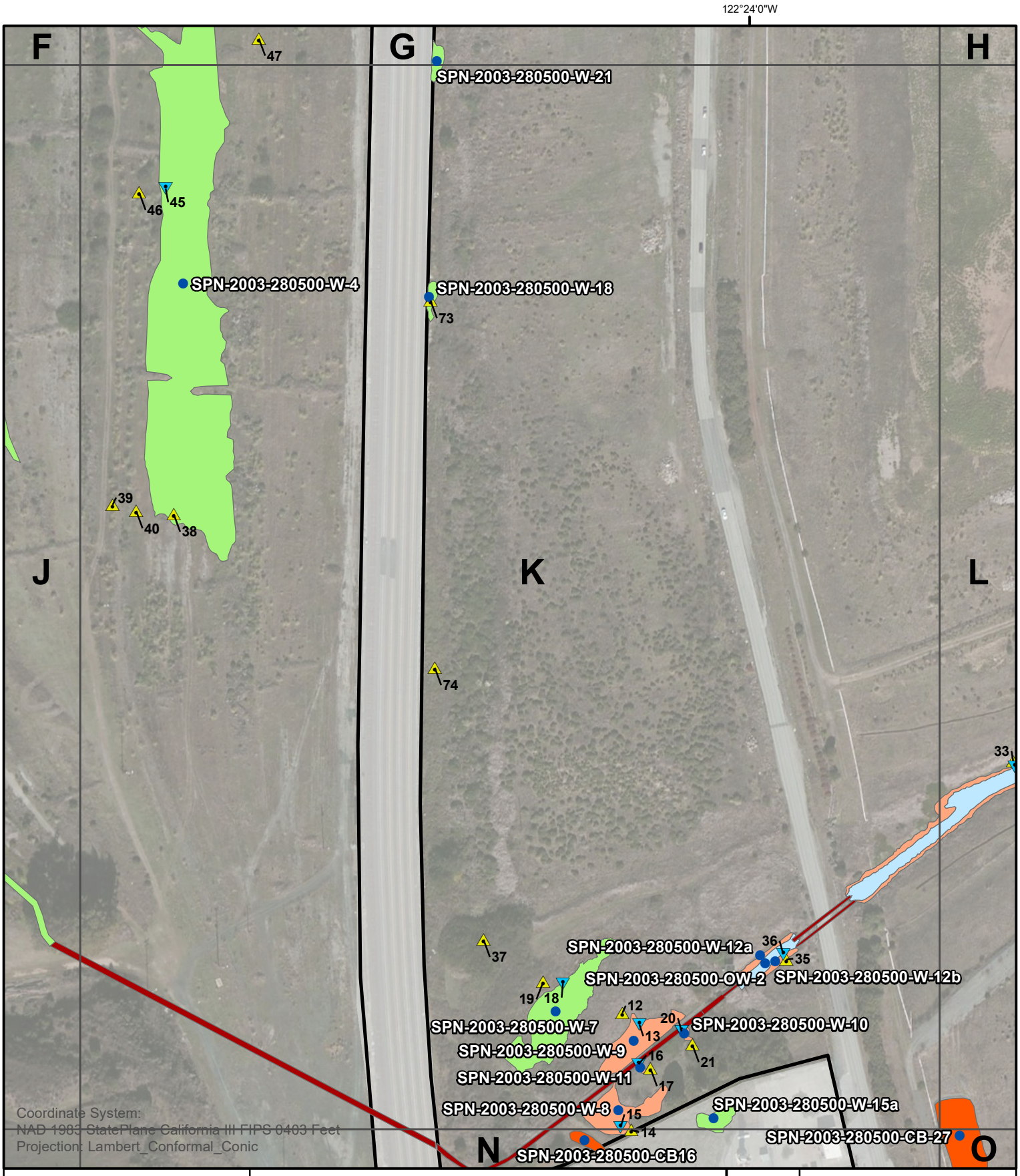
0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021



Brisbane Bayland Assessments

Figure K

South Baylands
Potential WOUS

Brisbane, CA

- Wetland

Biohabitats Soil Pits

- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert

Potential WOUS

- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

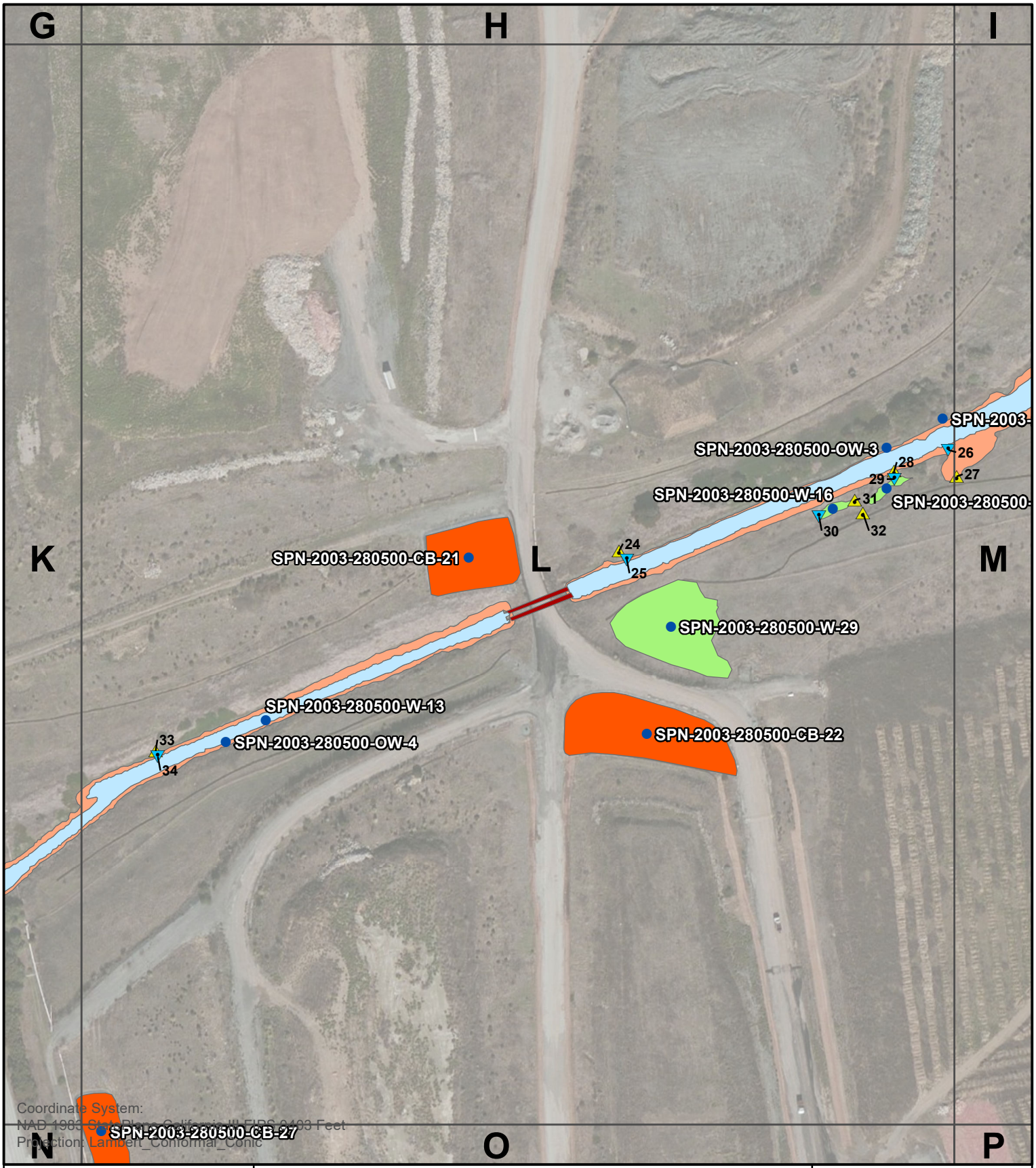
0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021



Brisbane Bayland Assessments

Figure L

South Baylands
Potential WOUS

Brisbane, CA

- Wetland

Biohabitats Soil Pits

- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert

Potential WOUS

- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021

Brisbane Bayland Assessments

Figure M

South Baylands
Potential WOUS

Brisbane, CA

- Wetland
- Biohabitats Soil Pits
- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert
- **Potential WOUS**
- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

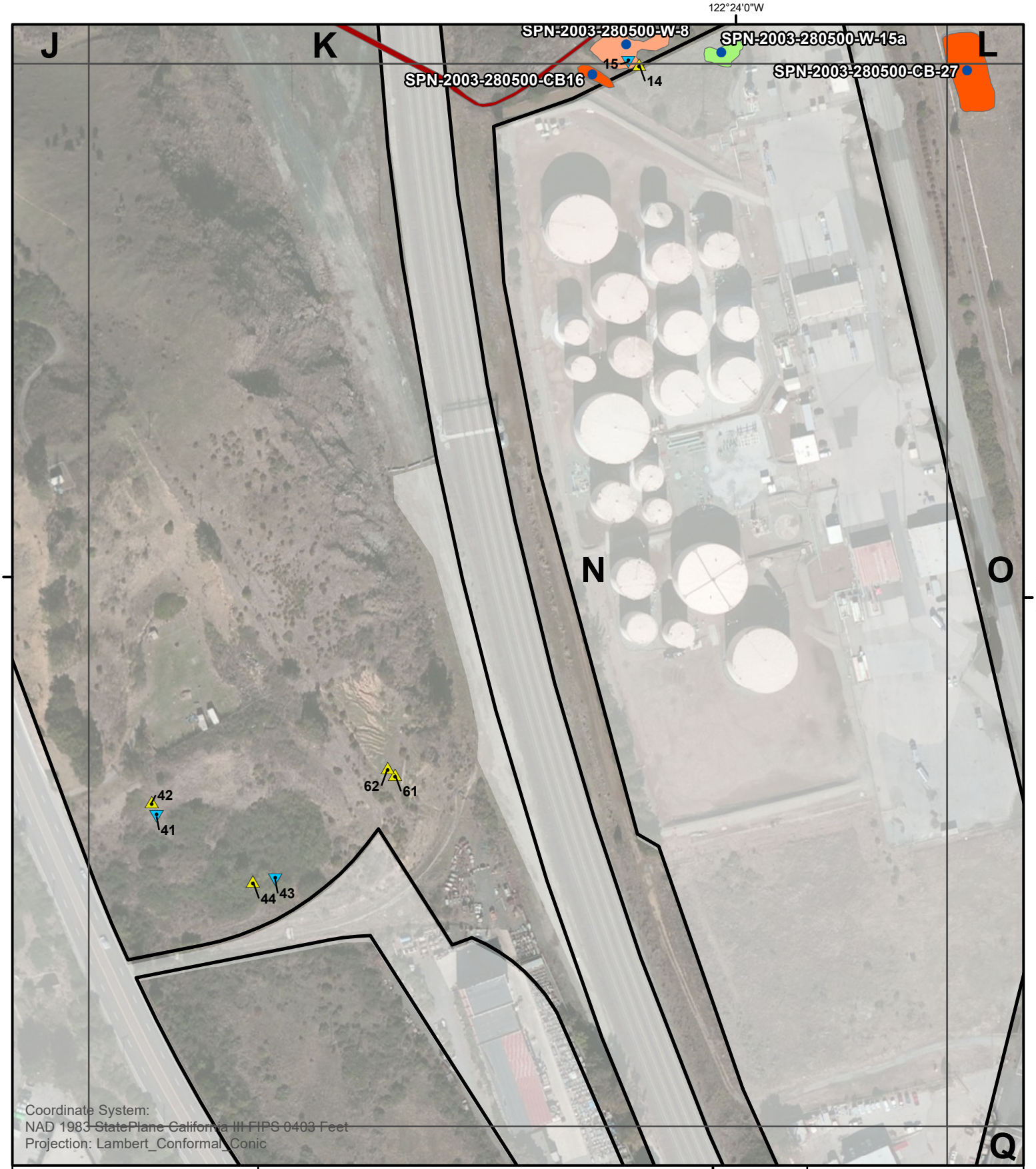
0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021



Brisbane Bayland Assessments

Figure N

South Baylands
Potential WOUS

Brisbane, CA

- Wetland

Biohabitats Soil Pits

- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert

Potential WOUS

- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

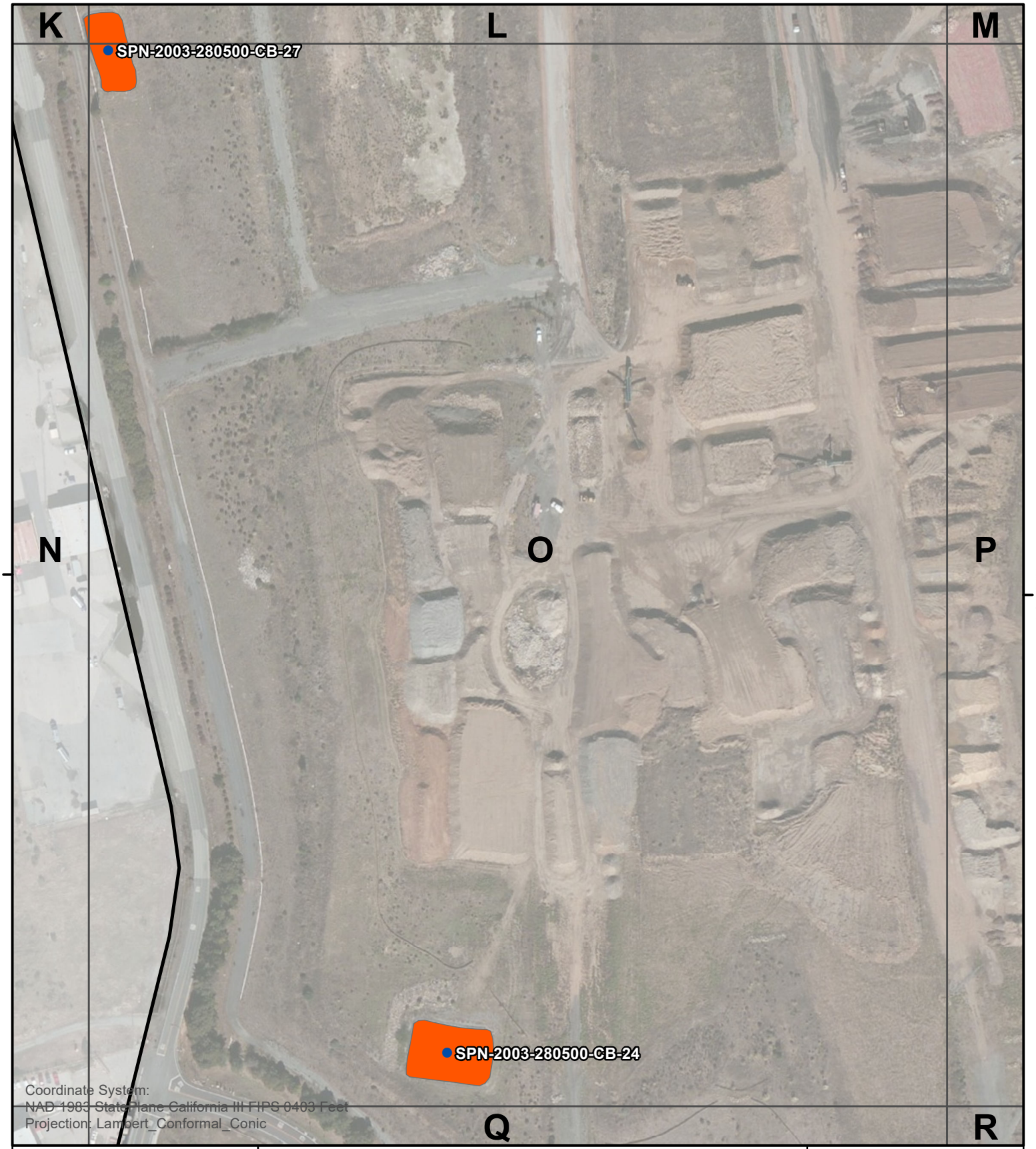
0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021



Brisbane Bayland Assessments

Figure O

South Baylands
Potential WOUS

Brisbane, CA

- Wetland

Biohabitats Soil Pits

- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert

Potential WOUS

- Palustrine Emergent
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- Open Water
- Study Area

0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021

Brisbane Bayland Assessments

Figure P

South Baylands
Potential WOUS

Brisbane, CA

- Wetland
- Biohabitats Soil Pits
- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert
- **Potential WOUS**
- Palustrine Emergent
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- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

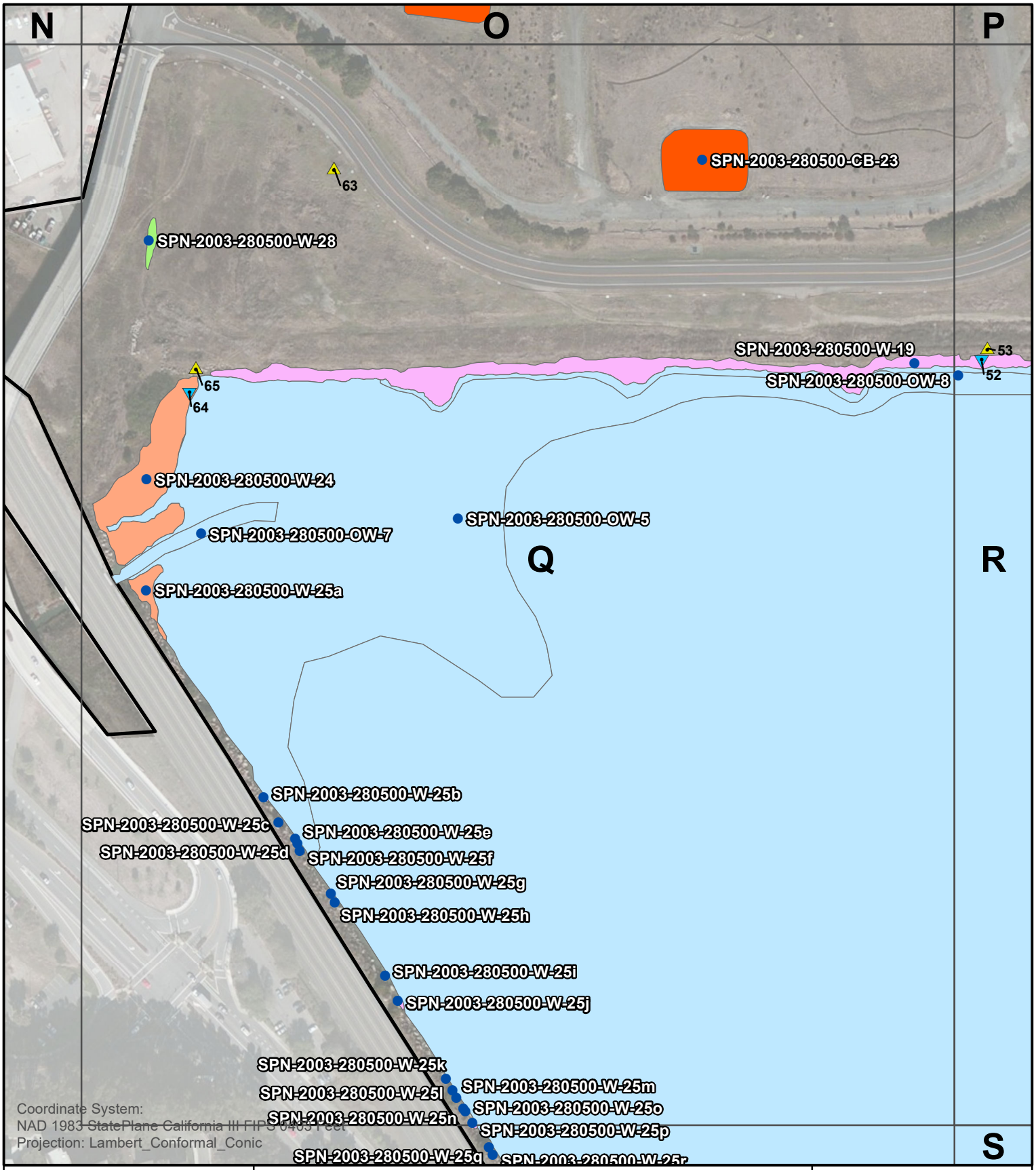
0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021



Brisbane Bayland Assessments

Figure Q

South Baylands
Potential WOUS

Brisbane, CA

- Wetland

Biohabitats Soil Pits

- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert

Potential WOUS

- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

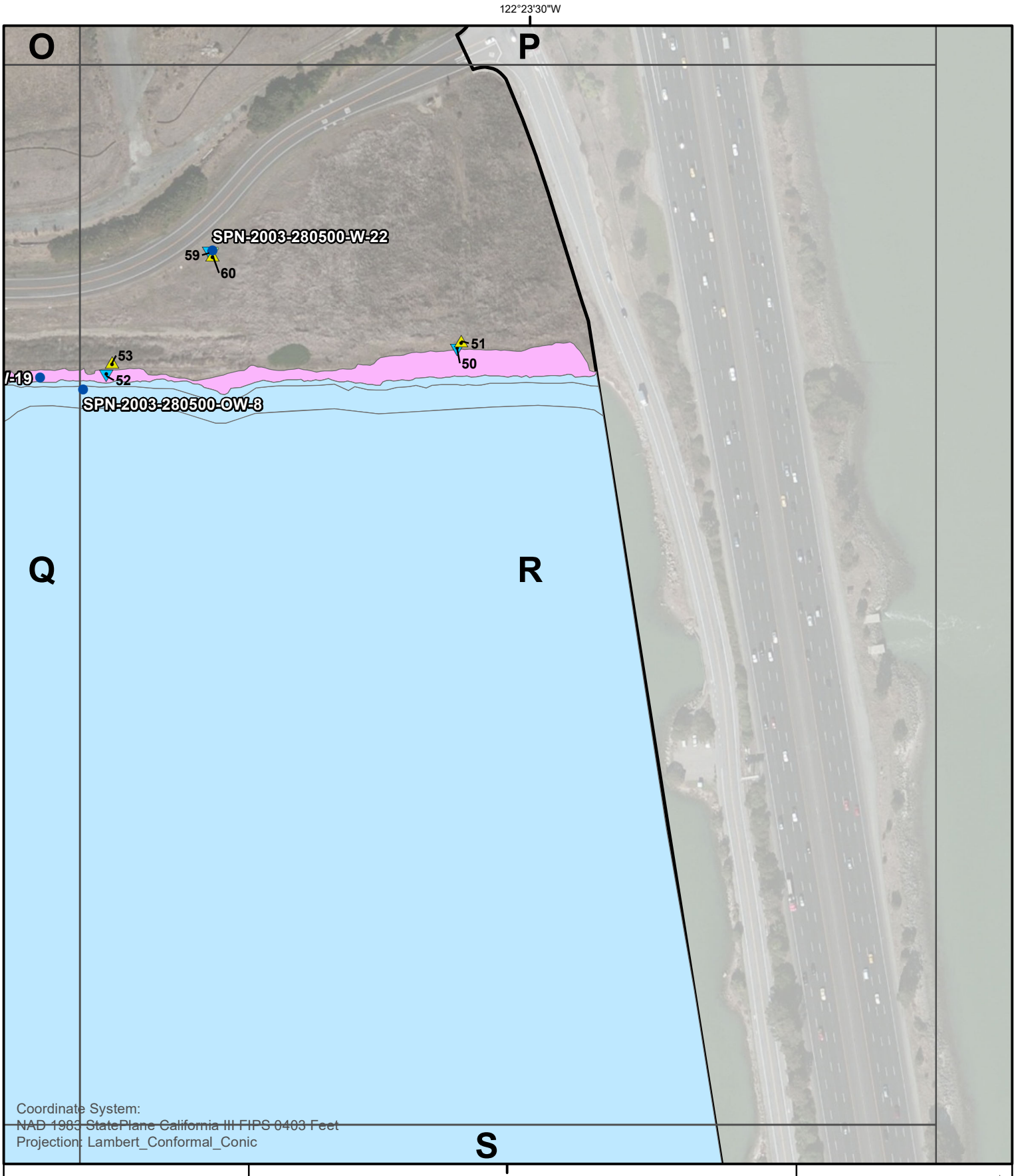
0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021



Brisbane Bayland Assessments

Figure R

South Baylands
Potential WOUS

Brisbane, CA

- Wetland
- Biohabitats Soil Pits
- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert
- **Potential WOUS**
- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

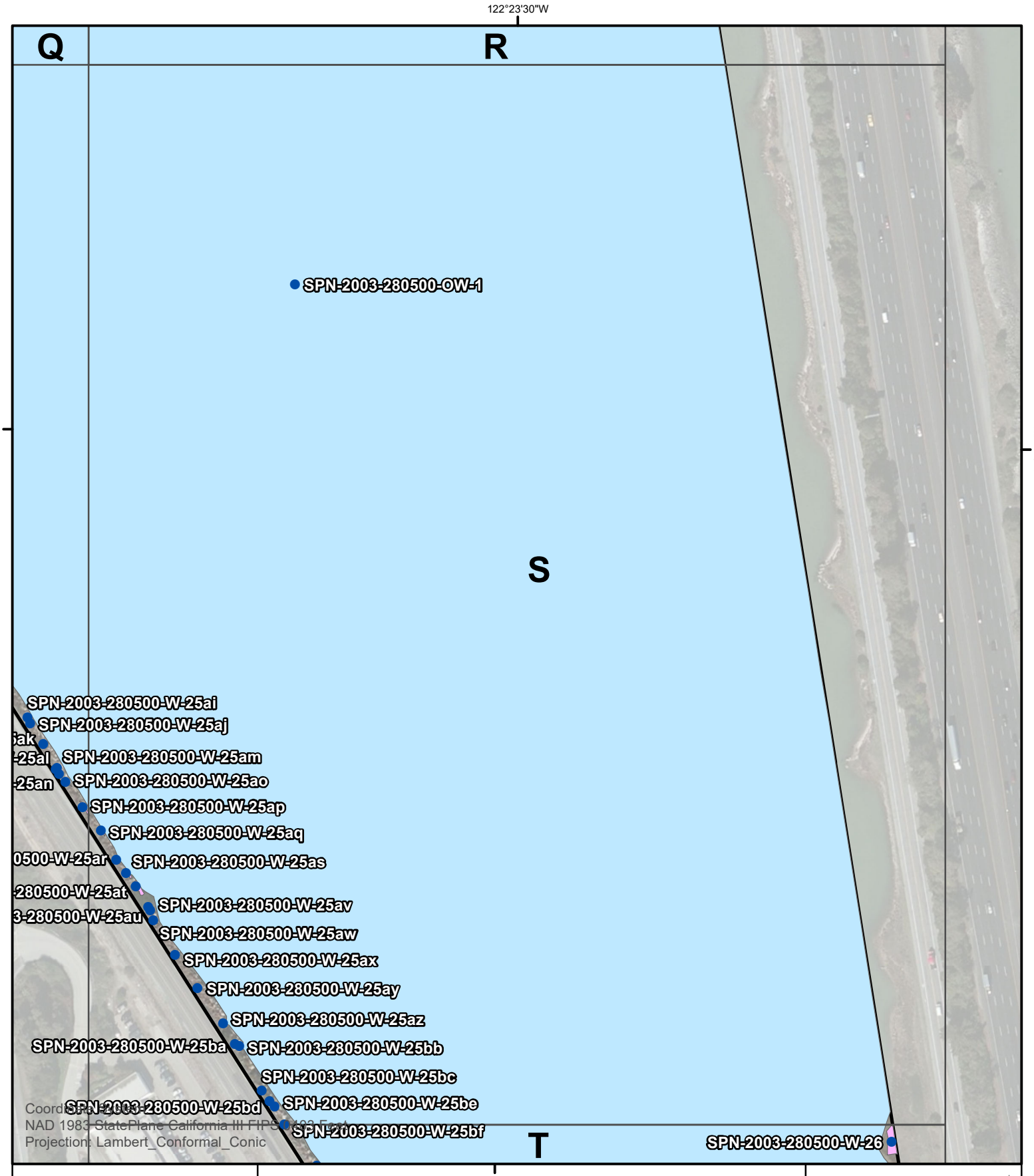
0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021



Brisbane Bayland Assessments

Figure S

South Baylands
Potential WOUS

Brisbane, CA

- Wetland

Biohabitats Soil Pits

- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert

Potential WOUS

- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

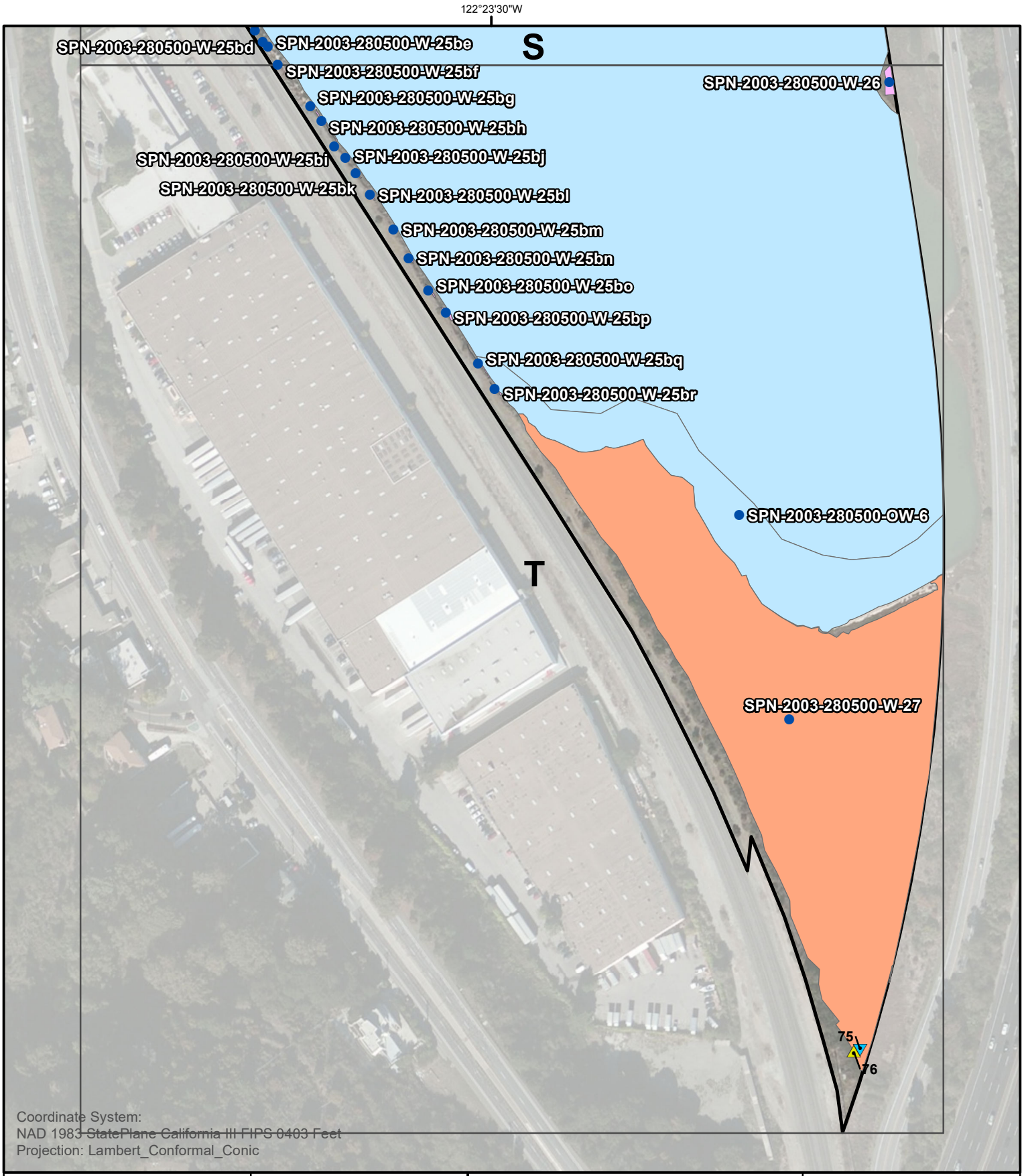
0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021



Brisbane Bayland Assessments

Figure T

South Baylands
Potential WOUS

Brisbane, CA

- Wetland
- Biohabitats Soil Pits
- Upland Soil Pit (50 pits)
- Wetland Soil Pit (31 pits)
- Culvert

Potential WOUS

- Palustrine Emergent
- Estuarine Intertidal Emergent
- Estuarine Intertidal Rocky Shore
- Constructed Basin
- Constructed Pond
- Constructed Waterways
- Open Water
- Study Area

0 200 Feet

1 inch = 200 feet

N

Biohabitats
CASCADIA BIOREGION

September 2021

Appendix C2

USACE Preliminary Jurisdictional Determination (USACE 2021)

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102

July 29, 2021

Regulatory Division

Subject: File No. SPN-2003-280500

Ms. Claudia Browne
Biohabitats
1732 Wazee Street, Suite 209
Denver, Colorado 80202

Dear Ms. Browne:

This correspondence is in reference to your submittal of November 4, 2020, on behalf of Baylands Development Inc. requesting a preliminary jurisdictional determination of the extent of navigable waters of the United States and waters of the United States occurring on a 623-acre study area located near the City of Brisbane, San Mateo County, California; Latitude 37.702832°, Longitude -122.404384°.

All proposed discharges of dredged or fill material occurring below the plane of ordinary high water in non-tidal waters of the United States; or below the high tide line in tidal waters of the United States; and within the lateral extent of wetlands adjacent to these waters, typically require Department of the Army authorization and the issuance of a permit under Section 404 of the Clean Water Act of 1972, as amended, 33 U.S.C. § 1344 *et seq*.

All proposed structures and work, including excavation, dredging, and discharges of dredged or fill material, occurring below the plane of mean high water in tidal waters of the United States; in former diked baylands currently below mean high water; outside the limits of mean high water but affecting the navigable capacity of tidal waters; or below the plane of ordinary high water in non-tidal waters designated as navigable waters of the United States, typically require Department of the Army authorization and the issuance of a permit under Section 10 of the Rivers and Harbors Act of 1899, as amended, 33 U.S.C. § 403 *et seq*.

The enclosed delineation map titled "Preliminary Jurisdictional Determination, pursuant to Section 404 Clean Water Act and Section 10 Rivers and Harbors Act, Brisbane Baylands, Brisbane, San Mateo County, California," in 3 sheets and date certified July 29, 2021, depicts the extent and location of wetlands, and other waters of the United States within the boundary area of the site that **may be** subject to U.S. Army Corps of Engineers' regulatory authority under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. This preliminary jurisdictional determination is based on the current conditions of the site, as verified during a site visit conducted on February 24 and 25, 2021, and a review of other data included in your submittal. While this preliminary jurisdictional determination was conducted pursuant to Regulatory Guidance Letter No. 16-01, *Jurisdictional Determinations*, it may be subject to future revision if new information or a change in field conditions becomes subsequently apparent. The

basis for this preliminary jurisdictional determination is fully explained in the enclosed *Preliminary Jurisdictional Determination Form*. You are requested to sign and date this form and return it to this office within two weeks of receipt.

You are advised that the preliminary jurisdictional determination may **not** be appealed through the U.S. Army Corps of Engineers' *Administrative Appeal Process*, as described in 33 C.F.R. pt. 331 (65 Fed. Reg. 16,486; Mar. 28, 2000). Under the provisions of 33 C.F.R Section 331.5(b)(9), non-appealable actions include preliminary jurisdictional determinations since they are considered to be only advisory in nature and make no definitive conclusions on the jurisdictional status of the water bodies in question. However, you may request this office to provide an approved jurisdictional determination that precisely identifies the scope of jurisdictional waters on the site; an approved jurisdictional determination may be appealed through the *Administrative Appeal Process*. If you anticipate requesting an approved jurisdictional determination at some future date, you are advised not to engage in any on-site grading or other construction activity in the interim to avoid potential violations and penalties under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Finally, you may provide this office new information for further consideration and request a reevaluation of this preliminary jurisdictional determination.

You may refer any questions on this matter to Sarah Firestone by telephone at (415) 503-6776 or by e-mail at Sarah.M.Firestone@usace.army.mil. All correspondence should be addressed to the Regulatory Division, South Branch, referencing the file number at the head of this letter. The San Francisco District is committed to improving service to our customers. The Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website: https://www.spn.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,

Sarah S. Firestone

Sarah Firestone
Senior Project Manager
Regulatory Division

Enclosures

cc (w/ encls):

Juan Rovalo (Biohabitats)
Howard Pearce (Baylands Development Inc.)