Delineation of Potential Jurisdictional U.S. and Waters of the State of California

Zanker Material Processing Facility Stormwater Basins Project

San Jose, Santa Clara County, California

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LIST OF ACRONYMS

BCDC	SF Bay Conservation and Development Commission
CFR	Code of Federal Regulations
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
CSRL	California Soils Resources Lab
CWA	Clean Water Act
DWR	Department of Water Resources
EPA	U.S. Environmental Protection Agency
FAC	Facultative Plant
FACU	Facultative Upland Plant
FACW	Facultative Wetland Plant
HTL	High Tide Line
MHW	Mean High Water
NAVD88	North American Vertical Datum of 1988
NOAA	National Oceanic and Atmospheric Administration
NWI	National Wetland Inventory
OBL	Obligate Wetland Plant
OHWM	Ordinary High Water Mark
RHA	Rivers and High Water Mark
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WMU	Waste Management Unit
WRA	WRA, Inc.

1.0 INTRODUCTION

This report presents the results of a delineation of potential waters of the U.S. as defined by the Clean Water Act (CWA) and waters of the State as defined by the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (State Wetland Policy, SWRCB, 2019). The Project Area for this delineation is the Zanker Materials Processing Facility (ZMPF; Project Area) located in San Jose, Santa Clara County, California (Appendix A, Figure 1). The Project Area encompasses 15 acres (APNs 015-30-071, 015-30-105, and 015-30-106) owned by Zanker Road Resource Management, Ltd (ZRRML).

On November 20 and 21, 2019 and July 24, 2020, WRA, Inc. (WRA) conducted a delineation within the Project Area to identify wetlands and non-wetland waters potentially subject to jurisdiction by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act (CWA) and/or Section 10 of the Rivers and Harbors Act (RHA). In addition, this report identifies wetlands and other features potentially subject to jurisdiction of the California State Water Resources Control Board (SWRCB) and Regional Water Quality Control Board (RWQCB) as defined in the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Wetland Policy, SWRCB, 2019). The following sections describe the regulatory background and methods used to guide the delineation and provide a summary of wetlands and non-wetland waters within the Study Area. This delineation is considered "potential" subject to the approval of the Corps of Engineers and, where appropriate, RWQCB[1].

This report depicts wetland and non-wetland waters features which are jurisdictional under the Clean Water Act (CWA) and State Wetland Policy. Differences between these jurisdictions are represented were appropriate on tables and maps associated with this report. Some features may be included that qualify for exemptions under either or both jurisdictional scopes. For all potentially exempt features, regardless of whether or not they are identified as such in this report, the applicant(s) reserve the right to request that the Corps, RWQCB, and/or SWRCB make a determination that such features are not waters of the U.S. or waters of the State subject to State Wetland Policy regulation.

2.0 REGULATORY BACKGROUND

2.1 Section 404 of the Clean Water Act

Section 404 of the Clean Water Act gives the Environmental Protection Agency (EPA) and the Corps regulatory and permitting authority regarding discharge of dredged or fill material into "navigable waters of the United States." Section 502(7) of the CWA defines "navigable waters" as "waters of the United States, including territorial seas." The Navigable Waters Protection Rule: Definition of ''Waters of the United States'' published April 21, 2020, and effective June 22, 2020 (Federal Register Vol. 85, No. 77), provides the final rule defining the scope of waters federally regulated under the Clean Water Act. Section 328 of Chapter 33 in the Code of Federal Regulations (CFR) defines the term "waters of the United States" as it applies to the jurisdictional limits of the authority of the Corps under the CWA. The definition of "waters of the United States" in 33 CFR 328.3 is:

[1] Per the State Wetland Policy, the SWRCB or local RWQCB is required to verify any wetlands present that are not included on delineation maps verified by the Corps (Lines 77-81 of the State Wetland Policy).

(1) The territorial seas and traditional navigable waters;
(2) Perennial and intermittent tributaries that contribute surface water flow to such waters;
(3) Certain lakes, ponds, and impoundments of jurisdictional waters;
(4) Wetlands adjacent to other jurisdictional waters.

The Navigable Waters Protection Rule clarifies that the following are not considered waters of the U.S.:

(a) Groundwater, including groundwater drained through subsurface drainage systems;
(b) Ephemeral features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools;
(c) Diffuse stormwater runoff and directional sheet flow over upland;
(d) Ditches that are not traditional navigable waters, tributaries, or that are not constructed in adjacent wetlands, subject to certain limitations.
(e) Prior converted cropland;
(f) Artificially irrigated areas that would revert to upland if artificial irrigation ceases;
(g) Artificial lakes and ponds that are not jurisdictional impoundments and that are constructed or excavated in upland or non-jurisdictional waters;
(h) Water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non-jurisdictional waters for the purpose obtaining fil, sand, or gravel;
(i) Stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater run-off;
(j) Groundwater recharge, water reuse, and wastewater recycling structures constructed or excavated in upland or in non-jurisdictional waters;
(k) Waste treatment systems.

2.1.1 Wetlands

Wetlands are defined in 33 CFR 328.3 (b) 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 do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.*

The basis for determining whether a given area is a wetland for the purposes of Section 404 of the CWA is outlined in the Corps *Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Delineation Manual* for the respective region (Arid West or Western Mountains and Valleys for California). As defined in 33 CFR 328.4 (c), the extent of federal jurisdiction within wetlands is defined as extending to the limit of the wetland as determined using the methods outlined in the manuals.

2.1.2 Non-Wetland Waters

The limit of federal jurisdiction in tidal non-wetland waters extends to the HTL which is defined in 33 CFR 328.3 (d) as:

> *...the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine*

shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

The limit of federal jurisdiction in non-tidal non-wetland waters extends to the OHWM which is defined in 33 CFR 328.3 (e) as:

...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses on the bank, shelving, changes in the characteristics of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

2.2 Section 10 of the Rivers and Harbors Act

The Corps of Engineers also has jurisdiction over "navigable waters" under Section 10 of the Rivers and Harbors Act of 1899. Section 10 of this Act applies to tidal areas below mean high water (MHW) and includes tidal areas currently subject to tidal influence, as well as historic tidal areas behind levees that both historically and presently reside at or below MHW. "Navigable waters of the U.S.", as defined in 33 CFR Part 329, are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

The act prohibits any unauthorized action that obstructs navigable capacity. These actions can include building of structures; excavation, fill; and alterations and modifications to navigable waters (33 USC 403). A determination of navigability, once made, applies laterally over the entire surface of the waterbody, and is not extinguished by later actions or events which impede or destroy navigable capacity. The upper limit of navigable water is at the point along its length where the character of the river changes from navigable to non-navigable, such as at a major fall or rapids. Since the upper limit of navigability of waterways under Section 10 jurisdiction is sometimes difficult to discern, determinations of navigability under Section 10 are often made by the Corps and kept on file, independent of submitted permit applications or delineations.

2.3 Waters of the State

The Porter-Cologne Water Quality Control Act gives the State Water Resources Control Board authority to regulate discharge of dredged or fill material that may affect the quality of "waters of the state". "Waters of the State" are defined broadly as:

any surface water or groundwater, including saline waters, within the boundaries of the state.

In April 2019 the SWRCB adopted the State Wetland Policy, which provides a State wetland definition, procedures and requirements for regulation of the discharge of dredge or fill material to wetlands and non-wetland waters of the State. The State Wetland Policy also includes exemptions from regulation of dredge and fill discharges for certain types of wetland and waters features, as well as for certain classes of activities, such as activities covered by an existing

RWQCB or SWRCB Order. The state wetland definition that became effective May 28, 2020 is similar to, but slightly different from that used by the Corps of Engineers:

> *An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.*

The State Wetland Definition and Procedures utilize existing Corps delineation procedures (Environmental Laboratory 1987, Corps 2008a, 2010). According to the State Wetland Policy, the SWRCB and RWQCBs generally rely on the Corps for verification of wetland and waters as part of an aquatic resource report. Any potential wetland area not identified in a report verified by the Corps is required to be delineated using Corps methods for consideration as a state wetland and verification by SWRCB or RWQCB staff. This report includes wetlands and non-wetland waters meeting both the Corps and State wetland definitions. Some features mapped as non-wetland waters under the Corps wetland definition may be considered wetlands under the State definition.

This report identifies wetlands and non-wetland waters according to the Corps definitions and criteria, consistent with the State Wetland Policy's reliance of these criteria. This report also recognizes that some non-wetland waters features may meet the wetland definition of the State Wetland Policy. Regardless of how they are defined, wetlands and non-wetland waters deemed jurisdictional may be regulated by the RWQCB and/or SWRCB under the State Wetland Policy.

3.0 PROJECT AREA DESCRIPTION

The approximately 15-acre Project Area is located in San Jose, Santa Clara County, California (Figure 1). The Project Area can be reached from the Zanker Road exit off of Highway 237. The Project Area consists of historically diked baylands that have had limited to no tidal connectivity since at least 1948 (Google Earth, NETR 2019). The Project Area is bounded by the Don Edwards San Francisco Bay National Wildlife Refuge to the north, the San Jose/Santa Clara Water Pollution Control Plant to the east, and the town of Alviso to the southwest. Surrounding land uses include undeveloped natural areas and industrial areas., Habitat conditions within the Project Area are generally of low-lying muted tidal wetlands and tidal open water, above which lies a relatively flat plain punctuated by upland berms (Figure 2).

3.1 Vegetation

The Project Area consists of ruderal herbaceous grassland, transitional uplands, and wetland communities. The ruderal herbaceous lands were previously developed or managed lands that have been allowed to revert to a semi-natural condition. This community is found along the roadsides and borders of the Project Area as well as on the tops of berms. These areas are dominated by black mustard (*Brassica nigra,* NL*),* short-podded mustard (*Hirschfeldia incana,* NL), wild radish (*Raphanus sativus,* NL), ripgut brome (*Bromus diandrus,* NL), Italian thistle (*Carduus pycnocephalus,* NL), stinkwort (*Dittrichia graveolens,* NL), or smilo grass (*Stipa miliacea,* NL). Transitional upland communities are found to the west of border of the Project Area. These lands are dominated by Italian ryegrass (*Festuca perennis;* FAC*)* interspersed with

pickleweed (*Salicornia pacifica;* OBL) and alkali heath (*Frankenia salina;* FACW). Ripgut brome and soft chess (*Bromus hordeaceus;* FACU) are also present at lower relative cover. Wetland areas are found in the northeastern section of the Project Area. A mixture of native wetland plants such as California bulrush (*Schoenoplectus acutus,* OBL), cattail (*Typha* sp.; OBL), and salt grass (*Distichis spicata;* FAC*)* and non-native grasses as Italian ryegrass, Mediterranean barley (*Hordeum marinum;* FAC), and annual beardgrass (*Polypogon monspeliensis;* FACW) can be found throughout the wetland areas.

3.2 Soils

The Soil Survey of Santa Clara County (USDA 2015) and SoilWeb (CSRL 2020) list four soil mapping units within the Project Area: Embarcadero, Novato, Urbanland-Embarcadero, and Xerothents. Descriptions of each soil mapping unit are provided below. The distribution of these soil mapping units within the Project Area is depicted in Figure 3.

Embarcadero Series: The Embarcadero series consists of very deep, naturally poorly drained soils, now artificially drained that formed in alluvium from mixed rock sources. Embarcadero soils are in basins near the edge of marshes. Slopes range from 0 to 2 percent. Embarcadero soils are poorly drained in their natural condition and frequently flooded. Most areas have been drained by historic agricultural ground water over drafting. Subsidence has occurred in the Santa Clara Valley from the groundwater over drafting, and has lowered these soils several feet requiring the use of levees to keep out bay waters. These soils are used for wildlife habitat, recreation and urban uses. Embarcadero silty clay loam, drained, 0 to 2 percent slopes, is considered a hydric soil (NRCS 2020).

A representative pedon of this series contains an A-horizon of strongly alkaline (pH 9.0), very dark gray (10YR 3/1) broken face when moist, clay loam from 0 to 7 inches depth. Six Bkn-horizons underlie the A-horizon do a depth of 65 inches (Bkn1, 7 to 16 inches depth; Bkn2, 16 to 25 inches depth; Bkn3, 26 to 37 inches depth; Bkn4, 37 to 47 inches depth; Bkn5, 47 to 61 inches depth; and Bkn6, 61 to 65 inches depth). The Bkn1-horizon consists of very strongly alkaline (pH 9.9), very dark grayish brown (2.5Y 3/2) broken face when moist, clay. The Bkn2-horizon consists of very strongly alkaline (pH 10.0), 10 percent dark greenish gray (5GY 3/1) broken face and 90 percent olive brown (2.5Y 4/3) broken face when moist, silty clay. The Bkn3-horizon consists of very strongly alkaline (pH 9.7), light olive brown (2.5Y 5/3) broken face when moist, silty clay. The Bkn4-horizon consists of very strongly alkaline (pH 9.6), light olive brown (2.5Y 5/3) silty clay. The Bkn-5 horizon consists of very strongly alkaline (pH 9.4), light olive brown (2.5Y 5/3) broken face when moist, clay loam. The Bkn6-layer consists of very strongly alkaline (pH9.3), 70 percent light olive brown (2.5Y 5/3) broken face and 30 percent olive gray (5Y 5/3) broken face when moist, silty clay. The BkCg-horizon extends from a depth of 65 inches to a depth of 98 inches and consists of very strongly alkaline (pH 9.2), 50 percent light olive brown (2.5Y 5/4) broken face and 40 percent gray (N 5/) broken face when moist, silty clay. This horizon contains iron depletions and 10 percent carbonate masses.

Novato Series: The Novato series consists of deep, very poorly drained soils that formed in alluvium deposited along the margin of bays. Novato soils are in tidal marshes and have slopes of 0 to 2 percent. Sediments of this soil series are deposited as bay mud. These soils are very poorly drained with very slow runoff and slow permeability. The water table fluctuates with the tides from 2 feet above the surface during very high tides to a depth of 2 feet during low tides. These soils are used for wildlife habitat. The principal native plants are pickleweed (*Salicornia* spp.), saltgrass (*Distichlis spicata*), and cordgrass

(*Spartina* spp.). Novato clay, 0 to 1 percent slopes, tidally flooded, is considered a hydric soil (NRCS 2020).

A representative pedon of this series contains an A11g-horizon from 0 to 2 inches depth of moderately alkaline (pH 8.0), very dark gray (2.5Y 3/2) with common medium distinct dark brown (7.5YR 4/4) mottles when moist, clay. Beneath this horizon lies an A12g-horizon, which extends to a depth of 6 inches and consists of moderately alkaline (pH 8.0), dark olive gray (5Y 4/1) with common medium distinct dark reddish brown (5YR 3/4) mottles when moist, clay. From a depth of 6 to 15 inches, an A13g-horizon contains moderately alkaline (pH 8.0), dark gray (5Y 4/1) with common medium distinct reddish brown (5YR 4/4) mottles when moist, clay. Beneath the A-horizons, three Cg-horizons, consisting of moderately alkaline (pH 8.0) clay, occur between the depths of 15 and 60 inches (C1g, 15 to 27 inches depth; C2g, 27 to 40 inches depth; and C3g, 40 to 60 inches depth). The C1g-horizon is dark gray (5Y 4/1) when moist. The C2g-horizon is is dark gray (5Y 4/1) with common medium distinct pale yellow (2.5Y 8/4) jarosite mottles when moist. The C3g-horizon is very dark gray (N 3/) when moist.

Urbanland-Embarcadero Complex: The Urbanland-Embarcadero complex consists of a mix of the Embarcadero series, described above, and urban fill. Urban fill can consist of gravel, sand, clay, and other non-native soils. Soils in this complex are very poorly drained. Urbanland-Embarcadero complex, 0 to 2 percent slopes, is considered a hydric soil (NRCS 2020).

Xerorthents: This soil map unit occurs mostly in urban areas and consists of human-transported material that has been moved mechanically and mixed. The fill consists of varying amounts of soil material, gravel, and other solid material. Soils are poorly developed and well drained with high runoff. Within the Project Area, the top two inches of soil are very acidic (pH 5.0), but soils at greater depths are more or less uniformly moderately alkaline (pH 8.0). Within the Project Area, Xerorthents are underlain by a trash substratum. Xerorthents, trash substratum 15 to 30 percent slopes, is not considered a hydric soil (NRCS 2020).

3.3 Hydrology

The primary hydrological source for non-tidal portions of the Project Area is precipitation and surface runoff from adjacent lands. The primary hydrological source for the tidal portions of the Project Area consists of tidal action from the San Francisco Bay. Tidal action reaches the Project Area from the northwest through a culvert running under Grand Boulevard. The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI; USFWS 2019) indicates that there are channels that directly connect to the adjacent area via culverts under the railroad tracks bordering the southwestern edge of the Project Area. However, this direct connection was not observed during the November 20 and 21 site visits. Instead, based on aerial imagery (Google Earth 2019) and field observations, it appears that a berm paralleling the southwestern boundary of the Project Area would cause any potential hydrologic surface connection to occur where the berm terminates in the western corner of the Project Area. The Project Area is within the San Francisco Bay HUC-8 watershed (NRCS 2020).

4.0 METHODS

WRA biologists performed a delineation of aquatic resources within the Project Area on November 20 and 21, 2019 and July 24, 2020. Prior to conducting the evaluation, WRA reviewed a range of background materials including the *Soil Survey of Santa Clara County* (USDA 2015), SoilWeb (CSRL 2020), NWI (USFWS 2020), the California Aquatic Resource Inventory SFEI 2017) and the U.S. Geological Survey (USGS) Milpitas 7.5-minute quadrangle map (USGS 2018). WRA also reviewed historic aerial imagery (Google Earth 2019, NETR 2019).

During the on-site evaluation, WRA followed the methods outlined in *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Corps Manual; Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Supplement; Corps 2008) and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* ("OHWM Guide"; Lichvar and McColley 2008). Potentially jurisdictional wetlands were identified and their boundaries mapped using the Routine Method described in the Corps Manual. The jurisdictional limits of non-wetland waters under Section 404 of the CWA were mapped based on a combination of field indicators described in the OHWM Guide and the use of tidal elevation data from nearby tide stations.

4.1 Wetlands

4.1.1 Routine Method

WRA followed the Routine Method to evaluate the Project Area for the presence or absence of indicators of the three wetland parameters described in the Corps Manual (Environmental Laboratory 1987) and Arid West Supplement (Corps 2008). Data on vegetation, hydrology, and soils were collected at sample points within potential wetland communities and adjacent upland areas. Sample points that contained positive indicators for hydrophytic vegetation, hydric soils, and wetland hydrology were considered to be wetland. Except in cases of atypical or problematic wetland situations (i.e., difficult wetland situations, as described below), sample points that lacked one or more indicators were considered to be upland. Sample point data were reported on Arid West Supplement data forms. Sample point locations were recorded using a handheld GPS unit with sub-meter accuracy.

Wetland boundaries were identified using a combination of indicators observed on the ground, most often corresponding changes in topography and dominant vegetation, in addition to other indicators. WRA also consulted historical aerial imagery from Google Earth to determine conditions on-site during different seasons.

4.1.2 Difficult Wetland Situations

The Arid West Supplement (Corps 2008a) includes recommended procedures for completing wetland delineations in areas of “difficult wetland situations” in which wetlands may lack one or more indicators due to natural or anthropogenic factors; these are discussed as atypical or problematic wetland conditions in the Corps Manual (Environmental Laboratory 1987). Although the Corps Manual and Arid West Supplement (Corps 2008a) were utilized in the wetland determination, they do not provide exhaustive lists of the difficult situations and problem areas that can arise during delineations in the Arid West. In these situations, the Corps Manual and Regional Supplements stress the importance of using best professional judgment and knowledge of the ecology of the wetlands in the region during the collection and interpretation of data in difficult sites.

The northern portion of the Project Area contains fill soil that was placed historically (NETR 2019). The composition of this whitish substrate is unknown, but it prevents or greatly limits the establishment of vegetation, resulting in a large, bare area. In this bare area, areas that met indicators of hydric soil and wetland hydrology were treated as wetland; areas that lacked hydric soil and/or wetland hydrology indicators were treated as upland.

4.1.3 WETS Analysis

A hydrologic analysis (i.e., WETS analysis; USDA 1997; Sprecher and Warne 2000) was conducted to determine whether precipitation levels during the three months prior to each site visit were above, below, or within the 30-year average for the region. Long-term precipitation data (i.e., the WETS table) were obtained from the weather station in nearby San Jose, located approximately 4.6 miles south of the Project Area, part of the National Weather Service Cooperative Network. Monthly precipitation data for the three months preceding the date of each site visit by WRA, were obtained from the San Jose weather station located approximately 4.6 miles south of the Project Area. A summary of the results of the WETS analysis is provided below in Table 1; the full analyses are provided as Appendix F.

Table 1. Summary of WETS Precipitation Analysis

Date	Description	Relative Precipitation Levels
November 20-21, 2019	Delineation Site Visit	Normal
July 2020	Delineation Site Visit	Drier than Normal

4.2 Non-Wetland Waters

This project also evaluated the presence of non-wetland waters potentially subject to Corps jurisdiction under Section 404 of the CWA. Non-wetland waters subject to Corps jurisdiction include lakes, rivers, and streams (including intermittent and ephemeral streams) in addition to all areas below the HTL in areas subject to tidal influence or to all areas below the OHWM in non-tidal areas.

4.2.1 High Tide Line

The HTL within the Project Area was determined based on the highest predicted tide for 2019 at the National Oceanic and Atmospheric Administration (NOAA) Coyote Creek, Tributary #1 tide station (Station ID: 9414561) and adjusted to the North American Vertical Datum of 1988 (NAVD88). Based on this analysis, the elevation of the HTL in the Project Area was determined

to be approximately 9.65 feet NAVD88. However, since tidal influence into the site is muted by passage through channels in the Don Edwards National Wildlife Refuge and the culvert under Grand Boulevard, the actual HTL elevation in the Project Area is lower than that of the nearest tidal station and for these reasons, no HTL was mapped. The limit of tidal influence was instead determined based on field observations.

4.2.2 Ordinary High Water Mark

In areas not subject to tidal activity, the OHWM Guide was followed to determine whether any non-tidal areas were within Corps jurisdiction under Section 404 of the CWA.

5.0 RESULTS

The Project Area is composed of a matrix of transitional upland areas, wetlands, and non-wetland waters. The transitional upland areas border the Waste Management Unit part of the Zanker Facility) outside of the Project Area. In the Project Area the jurisdictional areas are downslope along the edge in historically diked baylands and along Los Esteros Road. The site receives hydrologic inputs mainly through tidal action as well as precipitation and surface runoff. Grand Boulevard comprises the northwestern boundary and also serves as a hydrologic barrier affecting tidal input to the site. All tidal influence on the Project Area is directed through a culvert that passes under Grand Boulevard. Limited flow allowed through the culvert has contributed to the formation of open water/mudflats directly adjacent to the culvert and extending to the western edge of the Project Area. The transitional upland areas are dominated by non-native annual grasses while the seasonal and tidal wetlands have more native vegetation cover.

Water from the Project Area drains to the San Francisco Bay, a traditional navigable water of the United States. In addition, aquatic resources may be connected to interstate commerce through the shipping activities that occur within San Francisco Bay.

Descriptions of all aquatic resources identified within the Project Area are provided in the following sections. All of these features are potentially subject to federal jurisdiction under Section 404 of the CWA and to State Water Board jurisdiction as waters of the state. No potential aquatic features were identified that lacked vegetation and therefore might be classified as wetlands under the state wetland definition. A summary of acreages is provided in Table 2. A map showing the location and extent of potential jurisdictional waters mapped within the Project Area is provided as Appendix B. Wetland Determination Data Forms are provided as Appendix C. Photographs of the Project Area are provided as Appendix D. A list of all plant species observed during the delineation site visits is included as Appendix E.

Table 2. Summary of Wetland and Non-wetland Waters Mapped within the Project Area

Feature Type	Classification[1]	Acres	Linear Feet	Potential Waters of the U.S.
				Section 404
Wetlands				
Seasonal Wetland	PEM2	1.26	-	1.26

Muted Tidal Wetlands	E2USNh	2.43	-	2.43
	Total:	**3.69**	**-**	**3.69**
Non-Wetland Waters				
Tidal Open Waters/Mudflat	E2USh	1.35	-	1.35
	Total:	**1.35**	**-**	**1.35**

[1]See Federal Geographic Data Committee 2013

Descriptions of the aquatic resources identified within the Project Area that are potentially subject to federal jurisdiction under Section 404 of the CWA are provided in the following sections.

5.1 Section 404 of the Clean Water Act

5.1.1 Wetlands

Muted Tidal Wetlands

Within the Project Area, vegetated areas that have muted tidal connectivity, supplied by a culvert below Grand Boulevard, can be classified as muted tidal wetland. This vegetation type is dominated by pickleweed in the herb stratum, which frequently occur in dense monotypic stands. Pickleweed density decreases with distance from tidal open water/mudflat, and cover of non-native grasses, such as Italian ryegrass, Mediterranean barley, and annual beardgrass increases. Sample point SP02 and SP17 identifies muted tidal wetlands in a feature in the southern portion of the Project Area. Sample point SP01 is a paired upland pit with SP02 and SP18 is paired upland pit with SP17.

Soils were generally clays with a matrix color of very dark gray (10 YR 3/1), matching the Embarcadero silty clay loam description, and had redoximorphic features consisting of dark reddish brown (5 YR 3/4) to brown (7.5 YR 5/4) concentrations at 5 to 10 percent along pore linings. Soils met the Redox Dark Surface (F6) indicator. Indicators of wetland hydrology consisted of primary indicators including Inundation Visible on Aerial Imagery (B7) and Biotic Crust (B12).

Muted tidal wetlands were classified as E2USNh: Estuarine (E), Intertidal (2), Unconsolidated Shore (US), Regularly Flooded (N), and Diked/Impounded (h).

Seasonal Wetlands

Seasonal wetland within the Project Area occurs in low-lying areas where the primary source of hydrology is a result of direct precipitation and surface runoff rather than tidal influence. Seasonal wetlands are disconnected from tidal activity either by man-made berms or slight changes in elevation. In the latter case, the boundary between muted tidal and seasonal wetlands was determined based on increasing distance from tidal open water combined with a transition from pickleweed-dominated to annual-grass-dominated vegetation, slight changes in elevation, and physical barriers such as berms. Sample points SP03 (paired with upland SP04), SP08 (paired with upland SP06 and SP07), SP10 (paired with upland SP09), SP13 (paired with upland SP14), and SP15 (paired with upland SP16) were taken in seasonal wetlands. The upland paired sample points are, SP14 and SP15, and SP17.

Seasonal wetland is present in two different areas within the Project Area. Just southwest of the Project Area's southeastern border, water appears to pond against man-made berms in a slight

depression and along a short, discrete ditch. In these areas, the vegetation is comprised of scattered pickleweed with non-native grasses, including Italian ryegrass, Mediterranean barley, and annual beard grass, with scattered patches of goldfields (*Lasthenia* sp.). Along the northern border of the Project Area, just south of Grand Boulevard, muted tidal wetland also transitions to seasonal wetland with distance from tidal influence and slight elevation differences. Vegetation is similarly dominated by pickleweed and non-native grasses.

Soils were clay with a matrix color of very dark gray (10 YR 3/1), matching the Embarcadero silty clay loam profile description, with redoximorphic features consisting of brown (7.5 YR 4/4) and dark reddish brown (5 YR 3/4) concentrations along pore linings and in the matrix at 5 to 20 percent. Soils met the Redox Dark Surface (F6) indicator. Indicators of wetland hydrology included Surface Soil Cracks (B6), Water-Stained Leaves, and Biotic Crust (B12).

Seasonal wetlands were classified as PEM2: Palustrine (P), Emergent (EM), non-persistent (2).

5.1.2 Non-Wetland Waters

<u>Tidal Open Water/Mudflat</u>
Tidal open water/mudflats occur in the western portion of the Project Area, in low-lying areas of the relatively flat plain that were inundated and/or saturated at the time of the November 2019 site visits. Tidal open water/mudflat receives tidal connection from a culvert under Grand Boulevard. These features are unvegetated, consisting of either open water or barren mudflats.

Tidal open water/mudflat was classified as E2USh: Estuarine (E), Intertidal (2), Unconsolidated Shoreline (US), Diked/Impounded (h).

5.2 Section 10 of the Rivers and Harbors Act

WRA determined that none of the Project Area is under Section 10 jurisdiction due to the limited tidal influence into the area. All tidal flow is regulated through the culvert under Grand Boulevard and does not reach the natural HTL for the area. Because the Project Area is separated from the rest of the navigable waterway by the culvert, it was determined to be non-navigable and was not included in the limits of Section 10 jurisdiction shown in Appendix B.

6.0 CONCLUSION

The results of this delineation of aquatic resources was based on conditions observed during the time of the assessment and information gathered from previous aquatic resource delineations conducted on-site by WRA. The delineation uses the federal methodology to determine the potential boundaries of wetlands and non-wetland features and is consistent with the approach used by the Regional Water Quality Control Board to determine wetlands subject to the new State definition of wetlands.

7.0 REFERENCES

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APPENDIX A

WETS ANALYSES

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WETS historic data from climate station: San Jose Intl Airport
2019 observed rainfall data from climate station:
Date of site visit: 11/20-21/2019

		Rainfall Data from WETS							
	Month	3 yrs in 10 less than	Average	3 yrs in 10 more than	Observed rainfall (inches)	Condition (dry, wet, normal)	Condition Value	Weighting factor	product of previous two columns
1st month prior	August	0	0.04	0	0	wet	3	3	9
2nd month prior	September	0	0.18	0.13	0.13	wet	3	2	6
3rd month prior	October	0.29	0.77	0.84	0.01	normal	2	1	2
								SUM=	**17**

Note: If sum is:

6-9	prior period has been drier than normal
10-14	prior period has been normal
15-18	prior period has been wetter than normal

Condition Values: Dry=1
Normal=2
Wet=3

APPENDIX B

POTENTIAL WATERS OF THE UNITED STATES

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Figure 1.
Potential Wetlands and Waters of the U.S. and State

Delineation of Potential Jurisdictional
Waters of the U.S. and
Waters of the State of California
Zanker Material Processing
Facility Stormwater Basins
San Jose, Santa Clara County, California

Project Area (15.00 ac.)

Culvert

Sample Points

wetlands

Seasonal Wetland (1.26 ac.)

Tidal Open Water/Mudflat (1.35 ac.)

Muted Tidal Wetland (2.43 ac.)

N

0 200 400

Feet

wra
ENVIRONMENTAL CONSULTANTS

Path: L:\Acad 2000 Files\16000\16042-6\GIS\ArcMap\Delin20200501.mxd

Sources: NAIP Imagery 2018, WRA | Prepared By: njander, 9/18/2020

APPENDIX C

WETLAND DETERMINATION DATA FORMS

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Wetland Determination Data Form - Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City: San Jose County: Santa Clara Sampling Date: 11/20/2019

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: **SP01**

Investigator(s): S. J. Batiuk, R. Scampavia Section,Township,Range: _____

Landform (hillslope, terrace, etc.): diked baylands Local Relief (concave, convex, none): convex Slope(%): 10

Subregion(LRR): LRR C (Medit. CA) Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample 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: The sample point was taken on an upland roadside berm, which was adjacent to a tidal wetland, which was sampled at SP02. The wetland boundary was determined based off of a break in slope and a distinct shift from pickleweed (Salicornia pacifica, OBL)-dominated vegetation to Italian ryegrass (Festuca perennis, FAC) -dominated vegetation.

VEGETATION (use scientific names)

TREE STRATUM Plot Size: N/A	Absolute % cover	Dominant Species?	Indicator Status
1. *none*	0		
2.			
3.			
4.			
Tree Stratum Total Cover:	0		

SAPLING/SHRUB STRATUM Plot Size: N/A			
1. *none*	0		
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		

HERB STRATUM Plot Size: 5' radius			
1. *Festuca perennis*	85	Y	FAC
2. *Avena barbata*	10	N	NL
3. *Bromus diandrus*	3	N	NL
4. *Frankenia salina*	2	N	NL
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	100		

WOODY VINE STRATUM Plot Size: N/A			
1. *none*	0		
2.			
Woody Vines Total Cover:	0		

% 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)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals	(A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ 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: The feature was dominated by non-native upland grasses. At the time of sampling, grasses were mostly senexced; actual species cover may vary during growing season.

SOIL

Sampling Point SP01

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 %	Type[1]	Loc[1]	Texture	Remarks
0-18	10 YR 3/1	100					clay	no redoximorphic concentrations

[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)
- ☐ 1cm 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]:

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

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): N/A

Hydric Soil Present ? ☐ Yes ☒ No

Remarks: No hydric soil indicators were observed in the soil profile.

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):	N/A
Water table present?	☐ Yes	☒ No	Depth (inches):	N/A
Saturation Present? (includes capillary fringe)	☐ Yes	☒ No	Depth (inches):	N/A

Wetland Hydrology Present ? ☐ Yes ☒ No

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: No wetland hydrology indicators were observed within this upland feature.

Wetland Determination Data Form - Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City: San Jose County: Santa Clara Sampling Date: 11/20/2019

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: **SP02**

Investigator(s): S. J. Batiuk, R. Scampavia Section,Township,Range: _____

Landform (hillslope, terrace, etc.): diked bayland Local Relief (concave, convex, none): concave Slope(%): 0-2

Subregion(LRR): LRR C (Medit. CA) Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: C NWI classification: _____

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample 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: The sample point was taken within a tidally-connected ditch adjacent to Los Esteros Road. The sample point was taken near the edge of a tidal wetland and adjacent seasonal wetland (sampled at SP03). This wetland sample point is paired with upland sample point SP01.

VEGETATION (use scientific names)

TREE STRATUM Plot Size: N/A	Absolute % cover	Dominant Species?	Indicator Status
1. *none*	0		
2.			
3.			
4.			
Tree Stratum Total Cover:	0		

SAPLING/SHRUB STRATUM Plot Size: N/A			
1. *none*	0		
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		

HERB STRATUM Plot Size: 5' radius			
1. *Salicornia pacifica*	45	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	45		

WOODY VINE STRATUM Plot Size: N/A			
1. *none*	0		
2.			
Woody Vines Total Cover:	0		

% Bare ground in herb stratum 25 % cover of biotic crust 30

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)
% of dominant species that are OBL, FACW, or FAC? 100 (A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals	(A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators

☒ Dominance Test is >50%
☐ Prevalence Index is </= 3.0[1]
☐ Morphological adaptations (provide supporting data in remarks)
☐ 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: The feature was dominated by pickleweed (Salicornia pacifica).

SOIL

Sampling Point SP02

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 %	Type[1]	Loc[1]	Texture	Remarks
0-6	10YR 3/1	100					clay	no redoximorphic features
6-12	10YR 3/1	85	5YR 3/4	10	C	M, PL	clay	prominent redoximorphic features
			7.5YR 5/4	5	C	M, PL		prominent redoximorphic features

[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)
- ☐ 1cm 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]:

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

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): N/A

Hydric Soil Present ? ☒ **Yes** ☐ **No**

Remarks: From six to 12 inches' depth, prominent redoximorphic features were present within a dark matrix (F6, redox dark surface).

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): N/A
Water table present?	☐ Yes	☒ No	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	☐ Yes	☒ No	Depth (inches): N/A

Wetland Hydrology Present ? ☒ **Yes** ☐ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: Inundation on aerial imagery (B7) and the presence of a live biotic crust (B12) indicated the presence of wetland hydrology. Soils were moist, but not saturated, at the time of sampling.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
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Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
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3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Zanker Material Processing Facility/16042-6 City/County: San Jose / Santa Clara Sampling Date: 11/20/19

Applicant/Owner: Paul Lineberry/Zanker Material Processing Facility State: CA Sampling Point: SP03

Investigator(s): S. Batiuk, R. Scampivia Section, Township, Range: convex

Landform (hillslope, terrace, etc.): diked tidal bayland Local relief (concave, convex, none): concave Slope (%): 0-2

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

Soil Map Unit Name: _____ NWI classification: _____

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

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

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

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

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

Remarks:

The sample area was in a ditch of a seasonal wetland adjacent to the paired point SP04 in an upland area. This sample was close to the tidal ditch sampled as SP02.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. none	0		
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. none	0		
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Festuca perennis	25	Y	FAC
2. Distichlis spicata	20	Y	FAC
3. Helminthotheca echioides	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	46 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. none	0		
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 14 % Cover of Biotic Crust 40

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:

Most of the site not covered by non-native, FAC grass species was covered in biotic crust was present indicating wetland conditions.

SOIL

Sampling Point: SP03

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	10 YR 3/1	95	5 YR 3/4	5	C	M, PL	clay	prominent redoximorphic feature

[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: n/a

Depth (inches): n/a

Hydric Soil Present? Yes ✔ No ___

Remarks:

The soil at the sample site consisted of dense, dry clays with prominent redoximorphic features.

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:

Presence of biotic crust (B12) and water-stained leaves (B9) of Festuca perennis shows wetland conditions.

APPENDIX D

PROJECT AREA PHOTOGRAPHS

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Photograph 1. Photo of ruderal herbaceous vegetation, dominated by non-native grasses, thistles, and mustards, growing along the western edge of the WMU facing northwest.

Photograph 2. Photo of a berm dominated by black mustard, which separates muted tidal wetland (right) from transitional upland (left). Photo taken facing southwest

Photograph 3. Photo of ruderal herbaceous vegetation (background), consisting of sparse cover by perennial pepperweed and sickle grass, occurring adjacent to a seasonal wetland (upper left). Photo taken facing northwest.

Photograph 4. Photo of ruderal herbaceous vegetation, dominated by smilo grass, growing along the southern boundary of the WMU, facing northwest. Ornamental Peruvian peppertrees can be seen in the top right, and transitional upland, can be seen to the left.

Photograph 5. Photo of transitional upland, dominated by pickleweed and non-native grasses, in the southern portion of the Project Area. Photo taken facing southwest.

Photograph 6. Photo of transitional upland, dominated by pickleweed and non-native grasses, in the northeastern portion of the Project Area facing northeast. Ruderal herbaceous vegetation along the western edge of the WMU can be seen top left.

Photograph 7. Photo of seasonal wetland occurring in a ditch adjacent to Los Esteros Road, with ruderal herbaceous vegetation to the left and transitional upland to the right. Photo taken facing west.

Photograph 8. Photo of an unconnected ditch, containing a seasonal wetland, with ruderal herbaceous vegetation on either side. This ditch separates muted tidal wetland (left) from seasonal wetland (right). Photo taken facing northeast.

Photograph 9. Photo of pickleweed-dominated muted tidal wetland, which transitions to seasonal wetland (top), occurring in a ditch along the southern border of the Project Area. Transitional upland can be seen on the left, and ruderal herbaceous vegetation to the right. Photo taken facing east.

Photograph 10. Photo of pickleweed-dominated muted tidal wetland in the northern portion of the Project Area. Ruderal herbaceous vegetation can be seen in the left and top right, and seasonal wetland/transitional upland can be seen in the background. Photo facing northeast.

Photograph 11. Photo taken from the WMU, facing southwest. A mosaic of tidal open water/mudflat, pickleweed-dominated muted tidal wetland, and ruderal herbaceous upland occurring in the western portion of the Project Area is visible from this vantage point.

Photograph 12. Photo of tidal open water with islands of pickleweed-dominated muted tidal wetland. Photo taken of the western portion of the Project Area, facing northwest.

Photograph 13. Photo of an island of black mustard-dominated ruderal herbaceous vegetation, bordered by a fringe of pickleweed-dominated muted tidal wetland, surrounded by tidal open water. Photo taken in the western portion of the Project Area, facing southwest.

APPENDIX E

PLANT SPECIES OBSERVED WITHIN THE PROJECT AREA

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Appendix E-1. Plant species observed within the Project Area on November 20 and 21, 2019.

Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status (AW 2016)[3]
Ambrosia psilostachya	Ragweed	native	perennial herb	-	-	FACU
Atriplex prostrata	Fat-hen	non-native	annual herb	-	-	FACW
Atriplex rosea	Redscale	non-native	annual herb	-	-	FACU
Avena sp.	Wild oat	non-native	annual grass	-	-	-
Baccharis pilularis	Coyote brush	native	shrub	-	-	-
Beta vulgaris	Common beet	non-native	perennial herb	-	-	-
Bolboschoenus maritimus ssp. paludosus	Saltmarsh bulrush	native	perennial grasslike herb	-	-	OBL
Brassica nigra	Black mustard	non-native (invasive)	annual herb	-	Moderate	-
Bromus diandrus	Ripgut brome	non-native (invasive)	annual grass	-	Moderate	-
Bromus hordeaceus	Soft chess	non-native (invasive)	annual grass	-	Limited	FACU
Bromus madritensis	Foxtail brome	non-native	annual grass	-	-	UPL
Carduus pycnocephalus ssp. *pycnocephalus*	Italian thistle	non-native (invasive)	annual herb	-	Moderate	-
Centaurea melitensis	Tocalote	non-native (invasive)	annual herb	-	Moderate	-
Centaurea solstitialis	Yellow starthistle	non-native (invasive)	annual herb	-	High	-
Centromadia pungens ssp. *pungens*	Common tarweed	native	annual herb	-	-	FAC
Conium maculatum	Poison hemlock	non-native (invasive)	perennial herb	-	Moderate	FACW
Convolvulus arvensis	Field bindweed	non-native	perennial herb, vine	-	-	-
Cuscuta pacifica	Goldenthread	native	annual herb, vine (parasitic)	-	-	-

Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status (AW 2016)[3]
Cynara cardunculus	Cardoon	non-native (invasive)	perennial herb	-	Moderate	-
Distichlis spicata	Salt grass	native	perennial grass	-	-	FAC
Dittrichia graveolens	Stinkwort	non-native (invasive)	annual herb	-	Moderate	-
Echium candicans	Pride of madeira	non-native (invasive)	shrub	-	Limited	-
Epilobium brachycarpum	Willow herb	native	annual herb	-	-	-
Erigeron bonariensis	Flax-leaved horseweed	non-native	annual herb	-	-	FACU
Eucalyptus sp.	Eucalyptus	non-native	tree	-	-	-
Festuca perennis	Italian rye grass	non-native (invasive)	annual, perennial grass	-	Moderate	FAC
Foeniculum vulgare	Fennel	non-native (invasive)	perennial herb	-	High	-
Frankenia salina	Alkali heath	native	perennial herb	-	-	FACW
Grindelia stricta	Gumweed	native	perennial herb	-	-	FACW
Helminthotheca echioides	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	-	Limited	FAC
Hirschfeldia incana	Short-podded mustard	non-native (invasive)	perennial herb	-	Moderate	-
Hordeum marinum ssp. *gussoneanum*	Mediterranean barley	non-native (invasive)	annual grass	-	Moderate	FAC
Hordeum murinum	Foxtail barley	non-native (invasive)	annual grass	-	Moderate	FACU
Kickxia elatine	Sharp point fluellin	non-native	perennial herb	-	-	UPL
Kickxia spuria	Fluellin	non-native	perennial herb	-	-	-
Lactuca serriola	Prickly lettuce	non-native	annual herb	-	-	FACU
Lasthenia sp.	Goldfields	native	annual herb	-	-	FACW

Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status (AW 2016)[3]
Lepidium latifolium	Perennial pepperweed	non-native (invasive)	perennial herb	-	High	FAC
Ligustrum sp.	Privet	Non-native	tree	-	-	-
Limonium ramosissimum	Algerian sealavender	non-native (invasive)	perennial herb	-	Limited	FACW
Lotus corniculatus	Bird's foot trefoil	non-native	perennial herb	-	-	FAC
Lythrum hyssopifolia	Hyssop loosestrife	non-native (invasive)	annual, perennial herb	-	Limited	OBL
Malva pseudolavatera	Cretan mallow	non-native	shrub	-	-	-
Malva sp.	Mallow	non-native	annual herb	-	-	-
Medicago polymorpha	California burclover	non-native (invasive)	annual herb	-	Limited	FACU
Melilotus sp.	Sweetclover	non-native		-	-	FACU
Mesembryanthemum nodiflorum	Small flowered iceplant	non-native (invasive)	annual herb	-	Limited	FAC
Muhlenbergia rigens	Deergrass	native	perennial grass	-	-	FAC
Parapholis incurva	Sickle grass	non-native	annual grass	-	-	FACU
Pennisetum clandestinum	Kikuyu grass	non-native (invasive)	perennial grass	-	Limited	FACU
Plantago coronopus	Cut leaf plantain	non-native	annual herb	-	-	FAC
Polygonum aviculare	Prostrate knotweed	non-native	annual, perennial herb	-	-	FAC
Polypogon monspeliensis	Annual beard grass	non-native (invasive)	annual grass	-	Limited	FACW
Raphanus sativus	Wild radish	non-native (invasive)	annual, biennial herb	-	Limited	-
Rumex crispus	Curly dock	non-native (invasive)	perennial herb	-	Limited	FAC
Salicornia depressa	Virginia glasswort	native	annual herb	-	-	OBL
Salicornia pacifica	Pickleweed	native	perennial herb	-	-	OBL

Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL-IPC Status[2]	Wetland Status (AW 2016)[3]
Schinus molle	Peruvian pepper tree	non-native (invasive)	tree	-	Limited	FACU
Schoenoplectus californicus	California bulrush	native	perennial grasslike herb	-	-	OBL
Silybum marianum	Milk thistle	non-native (invasive)	annual, perennial herb	-	Limited	-
Sonchus arvensis	Perennial sow thistle	non-native	perennial herb	-	-	FACU
Stipa miliacea var. *miliacea*	Smilo grass	non-native (invasive)	perennial grass	-	Limited	-
Typha sp.	Cattail	-	perennial herb (aquatic)	-	-	OBL

All species identified using the *Jepson Flora Project (Jepson eFlora 2019)*; nomenclature follows Jepson eFlora. Sp.: "species", intended to indicate that the observer was confident in the identity of the genus but uncertain which species.

[1]Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2019a)

FE: Federal Endangered
FT: Federal Threatened
SE: State Endangered
ST: State Threatened
SR: State Rare
Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
Rank 1B: Plants rare, threatened, or endangered in California and elsewhere (*Rank 1B: Rare in native stands only)
Rank 2A: Plants presumed extirpated in California, but more common elsewhere
Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3: Plants about which we need more information – a review list
Rank 4: Plants of limited distribution – a watch list

[2]Invasive Status: California Invasive Plant Inventory (Cal-IPC 2019)

High: Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate: Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited-moderate distribution ecologically
Limited: Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed: Assessed by Cal-IPC and determined to not be an existing current threat

[3]Wetland Status: National List of Plant Species that Occur in Wetlands, Arid West Region (Lichvar et al. 2016)

OBL: Almost always a hydrophyte, rarely in uplands

FACW: Usually a hydrophyte, but occasionally found in uplands
FAC: Commonly either a hydrophyte or non-hydrophyte
FACU: Occasionally a hydrophyte, but usually found in uplands
UPL: Rarely a hydrophyte, almost always in uplands
NL: Rarely a hydrophyte, almost always in uplands
NI: No information; not factored during wetland delineation

* Species only considered rare in native habitat; Study Area is not located within native habitat and species is therefore not considered rare.