Redwood City
Saltworks

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November 12, 2009

Jane Hicks
Division Chief
Regulatory Division
U.S. Army Corps of Engineers
1455 Market Street, 16th Floor
San Francisco, California 94103-1398

Re: Redwood City Saltworks Preliminary Jurisdictional Determination Request

Dear Ms. Hicks,

DMB Redwood City Saltworks (Applicant) – a venture whose principals are DMB Associates, Inc. and Cargill, Inc. – hereby requests that the U.S. Army Corps of Engineers (Corps) prepare a preliminary jurisdictional determination (PJD) in accordance with the Corps' Regulatory Guidance Letter (RGL) 08-02 for the approximately 1,478 acres of industrial salt production facilities and adjacent areas in and around Redwood City, San Mateo County, California (Saltworks Site or Site). The Site consists of lands owned by Cargill Point, LLC, as well as some adjoining lands owned by others. The latter areas are included in our request for a PJD because these adjacent lands may be affected by proposed development and restoration at the Saltworks Site. As we discussed at our pre-application meeting with the agencies on June 9, 2009, we are submitting this PJD request in accordance with RGL 08-02, and we understand that a written response from the Corps would follow within 60 days. Once we have finalized the PJD, we will file our Clean Water Act Section 404 and Rivers and Harbors Act Section 10 permit application soon thereafter.

The Applicant desires to move forward with a PJD given the unique history and nature of the Site. As you know, the Applicant and Cargill consistently have maintained that the salt production facilities of the Site are not subject to federal jurisdiction under either the Clean Water Act (CWA) or the Rivers & Harbors Act (RHA) and no final approved jurisdictional determination has ever been conducted by the Corps or the U.S. Environmental Protection Agency (EPA). By its terms, RGL 08-02 provides permit applicants the ability to "set aside questions regarding CWA and RHA jurisdiction" and elect to use a PJD to process an individual or general permit. PJDs can be used "even where initial indications are that the waterbodies or wetlands on a site *may not* be jurisdictional..." (emphasis added). A PJD makes "no legally

binding determination of any type regarding whether CWA/RHA jurisdiction exists over the particular water body or wetland in question." Instead, the wetlands and waters that are identified within the PJD are simply presumed to meet the requirements of federal jurisdiction under CWA Section 404 and RHA Section 10 for the sole and exclusive purpose of processing the "50/50 Balanced Plan" project application currently pending at the City of Redwood City.

By electing to proceed under a PJD, the Applicant understands that in processing its application for a permit, the Corps will treat "all waters and wetlands that would be affected in any way by the permitted activity on the site as if they are jurisdictional waters of the U.S." Therefore, waters and wetlands, as applicable, will be evaluated in accordance with the agencies' 404(b)(1) Guidelines at 40 CFR Part 230 and compensatory mitigation regulations at 33 CFR Parts 325; 332 and 40 CFR Part 230 (73 Fed.Reg. 19593 (April 10, 2008)). Importantly, however, by electing to proceed under a PJD, and as recognized by the terms of RGL 08-02, the Applicant does not waive any rights to later challenge federal jurisdiction over the Site. RGL 08-02 specifically states that applicants who proceed under a PJD can later seek an approved jurisdictional determination and challenge federal jurisdiction. Accordingly, as contemplated by RGL 08-02, the Applicant specifically reserves all rights to challenge federal jurisdiction over any portion or all of the Site in the future.

For purposes of this PJD request, the Site has been broken down into four Study Areas, A-D, in order to distinguish among areas of the Site that have differing hydrological influences, land uses, and ownership. The four Study Areas in order of largest to smallest are as follows:

Study Area D: Salt Production Facility. Study Area D is Cargill's Salt Production Facility that has been in industrial use since 1901 and was expanded and constructed into its current configuration pursuant to and in accordance with a United States War Department permit issued in 1940. The permitted levee system severed the Site from the Bay, and the use and configuration of the Salt Production Facility has remained largely unchanged to this day. Study Area D as delineated by Wetlands Research Associates, Inc. (WRA) and recognized by the Corps and EPA in 2002 contains no special aquatic sites. It includes approximately 1,365 acres of areas owned by Cargill (portions of APN 054-310-160, 054-300-230, and 054-300-670) that are involved in the industrial salt production process (Figure 2). Study Area D includes: (a) Facility Headquarters and Levees (approximately 95 acres), (b) the Crystallizer Complex (approximately 527 acres), (c) the Pickle Complex (approximately 437 acres); (d) the Bittern Complex (approximately 245 acres); and the Multi-Use Area Complex (approximately 61 acres).

Study Area C: Outboard of the Levee Waterfront Area. Study Area C is approximately 85 acres owned by Cargill (outboard of the levee portions of APN 054-310-160; 054-300-230, 054-300-670) and is comprised of the tidally-influenced areas along Westpoint Slough, First Slough, and Flood Slough (Figure 2). These areas are outboard of the containment levees surrounding the Salt Production Facility (Study Area D).

Study Area B: Regional Storm Drain Channel Area. Study Area B is approximately 20 acres and includes a drainage ditch and surrounding areas along the southern boundary of the Saltworks Site (Figure 2). Study Area B contains parcels owned by Cargill (a portion of APN 054-310-160 and 054-121-160) that is burdened by a drainage easement benefiting the City of Redwood City (2264 O.R. 130), one parcel owned by the City of Redwood City (APN 054-121-120), and one parcel owned by Pacific Gas and Electric (PG&E) (122 OR 258, Parcel 2).

Study Area A: Seaport Channel and Seaport Levee Areas. Study Area A is approximately 8 acres comprised of a detention basin and surrounding levees located along the western boundary of the Saltworks Site to the east of Seaport Boulevard (Figure 2). The Seaport Levee Area is comprised of a levee within Cargill property adjacent to Seaport Boulevard (the western-most portion of APN 054-300-320), and the Seaport Channel Area contains a detention basin that is owned and operated by the City of Redwood City (conveyed to City by Deed 88-151742, Nov. 7, 1988). The detention basin receives stormwater flows from portions of Seaport Boulevard. A small pump station maintains water levels within the detention basin during dry months.

In accordance with RGL 08-02, WRA has prepared draft PJD forms for each of the four Study Areas which are set forth in Appendices A - D to this letter. Each lettered Appendix includes the Corps PJD form, a summary of results, Study Area description, maps, and sample points taken on Corps Arid West Data Forms.

We believe that the PJD forms and supporting documentation provide the information necessary for the Corps to complete a PJD for the Site and look forward to receiving a written response from the Corps with 60 days in accordance with RGL 08-02. If you have any questions regarding our request or the information contained in or attached to it, please contact me. We look forward to moving forward with the permit process as soon as the PJD process is complete. Thank you very much for your prompt attention to this important matter.

Sincerely,

David C. Smith, Esq.
Vice President Regulatory Affairs
DMB ASSOCIATES, INC.

cc: Wade Eakle, Manager, South Pacific Division, U.S. Army Corps of Engineers

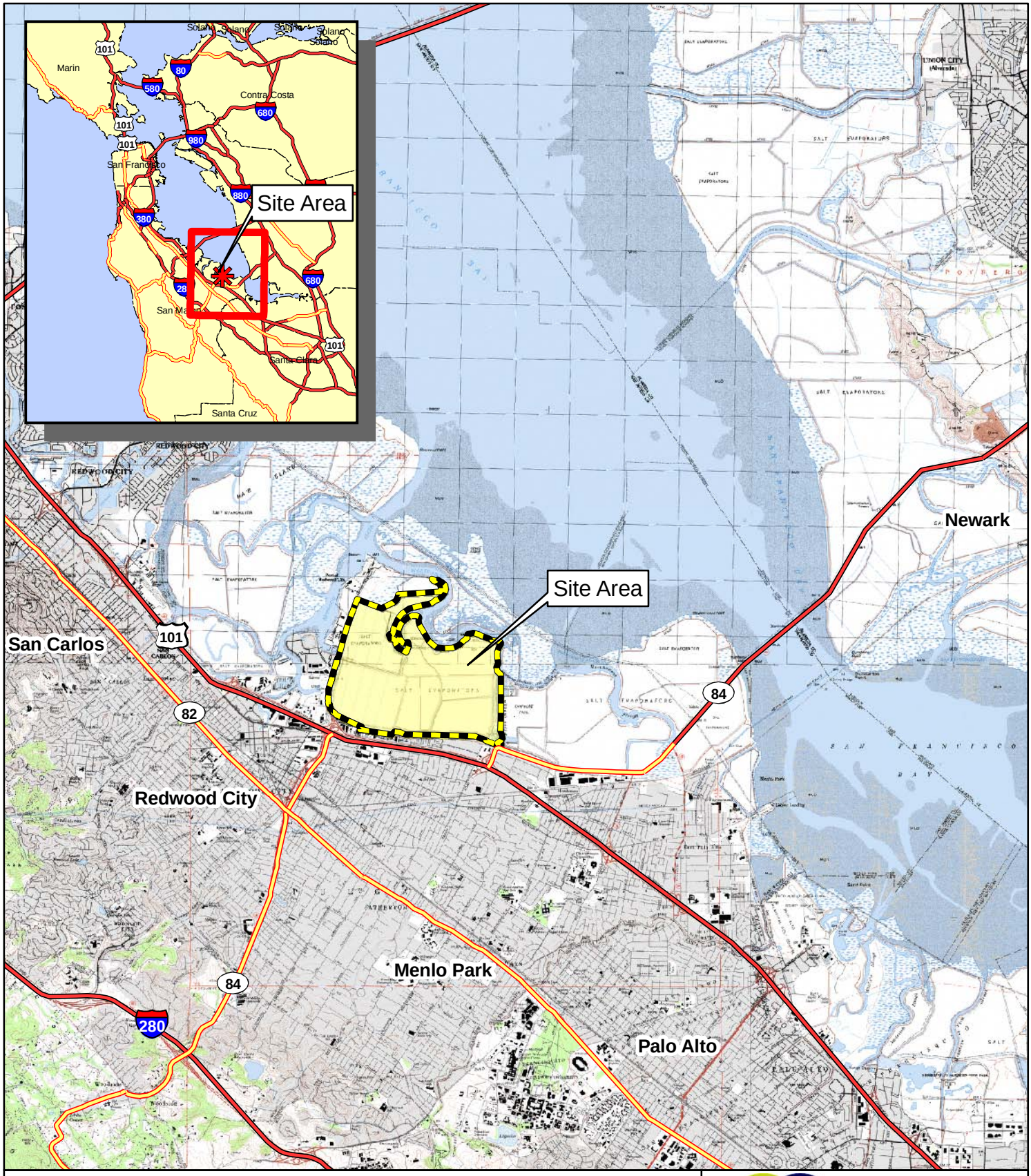

Figure 1. Saltworks Site Location Map

Figure for use under RGL No.08-02 only; all rights reserved

N
W E
S

0 0.75 1.5 Miles

wra
ENVIRONMENTAL CONSULTANTS

DMB Redwood City Saltworks
San Mateo County, California

Basemap: USGS Topo Quad
Map By: Sundaran Gillespie
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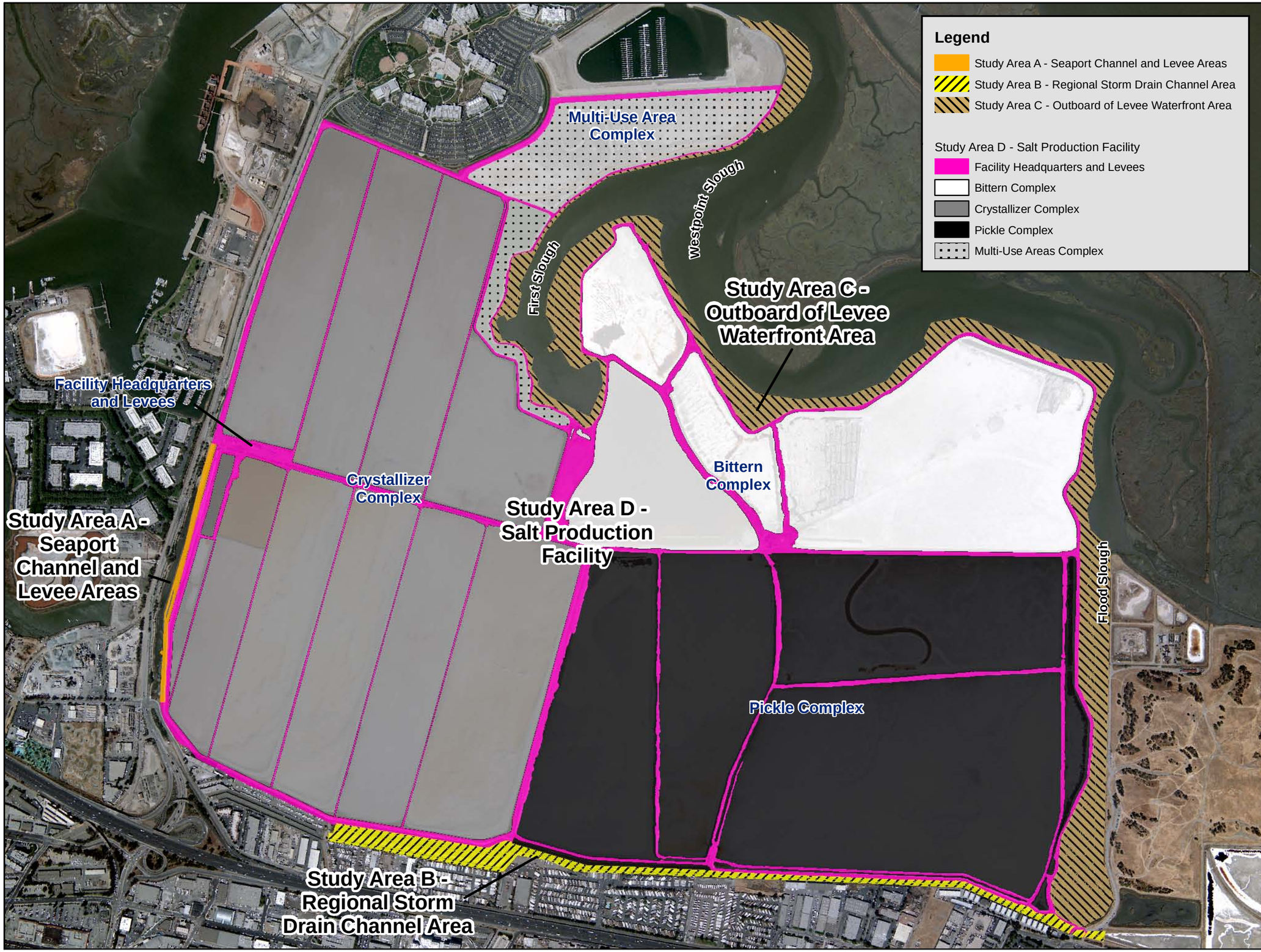

wra
ENVIRONMENTAL CONSULTANTS
2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
(415) 454-0129 Fax

DMB Redwood City Saltworks

San Mateo County, California

Figure 2. Saltworks Site Study Areas

Figure for use under RGL No.08-02 only; all rights reserved

This map is representational only, and not meant for use in detailed design.

N
W E
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0 500 1,000 2,000
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Image Date: August 2008
Image Source: Redwood City Industrial Salt Works
Map By: Sundaran Gillespie
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STUDY AREA A: SEAPORT CHANNEL AND LEVEE AREAS

PRELIMINARY JURISDICTIONAL FORM

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PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: San Francisco District | File/ORM #: | PJD Date: October 2009

State: CA | City/County: Redwood City/San Mateo County

Nearest Waterbody: South San Francisco Bay

Location: TRS, LatLong or UTM: Saltworks Study Area A: Seaport Levee/Seaport Channel Area (lat/long 37.49, -122.21).

Name/ Address of Person Requesting PJD: DMB Redwood City Saltworks
DMB Saltworks, LLC
1700 Seaport Boulevard Suite 200
Redwood City, California 94603

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: n/a linear ft | n/a width | 3.0 acres | Stream Flow: N/A

Wetlands: 1.1 acre(s) | Cowardin Class: varies, see following page

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: none | Non-Tidal: none

☐ Office (Desk) Determination
☑ Field Determination: Date of Field Trip: Jan-Feb 2008

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Figure A-1 (WRA, 2009)
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Redwood Point (1993), Palo Alto (1991)
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA 1991. Soil Survey of San Mateo Cnty (East). (see Note 1, following page)
- ☑ National wetlands inventory map(s). Cite name: Redwood Point, Palo Alto (see Note 2, following page)
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: 060325 0012B
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): Aerial provided by Saltworks, dated August 2008
  - ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☑ Other information (please specify): January 16, 1940 War Department Permit

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office	San Francisco District	File/ORM #		PJD Date:	October 2009
State	CA	City/County	Redwood City/San Mateo County	Person Requestinq PJD	DMB Saltworks, LLC

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
Wet. A1	37.494520	-122.292900	Estuarine	0.9 acre	muted tidal wetland, see note 3
Wet. A2	37.496364	-122.212394	Palustrine, emergent	0.1 acre	non-tidal wetland, see note 3
Wet. A3	37.499636	-122.211330	Estuarine	<0.1 acre	muted tidal wetland, see note 3
Wet. A4	37.497751	-122.211620	Palustrine, emergent	<0.1 acre	non-tidal wetland, see note 3
Basin A1	37.497888	-122.212076	Estuarine	2.7 acres	muted tidal basin, unvegetated, see note 3
Dep A2	37.495828	-122.212561	Lacustrine	0.1 acre	non-tidal depression, unvegetated, see note 3

Notes:

Additional Sites:

Basin A3, 37.499571, -122.211438, Estuarine, 0.2 acre, muted tidal basin, unvegetated, see note 3

Depression A4, 37.500390, -122.211157, Lacustrine, <0.1 acre, non-tidal depression, unvegetated, see note 3

Basin A1 is a stormwater basin connected to Redwood Creek by a tidal gate, with a fringe of wetland vegetation (Wetland A1). Depression A2 is an unvegetated depression at the top of a man made levee, with a wetland fringe (Wetland A2). Basin A3 is an unvegetated basin created by overflow from the stormwater basin (Basin A1). Wetland A3 is a vegetated fringe surrounding Basin A3. Depression A4 is an equipment storage area which has formed a depression that holds water at times during the rainy season. Wetland A4 is a vegetated depression formed on a man made levee.

Note 1. Per the Arid West Manual (page 34), soil survey information from the USDA Soil maps "is not site specific and does not preclude the need for on-site investigation." (See also USDA soil extent mapping tool at http://www.cei/psu.edu/soiltool: "these maps are suited for general information exploration and are not intended for site-specific investigations.") Here, the USDA Soil maps do not represent actual site conditions.

Note 2. For National Wetland Inventory maps: Note that the National Wetlands Inventory and associated classification system is not intended to produce legal or regulatory products or be used as the basis for determining the amount or type of jurisdictional area present (http://www.fws.gov/wetlands/faqs.html#legal; Wetland Delineation Manual, Corps 1987). The National Wetland Inventory mapped boundaries and Cowardin wetland classification shown on the 1985 NWI map is not representative of actual conditions observed in the field.

Note 3. Form prepared for use under RGL No. 08-02 only. Applicant reserves all rights to challenge jurisdictional issues in the future.

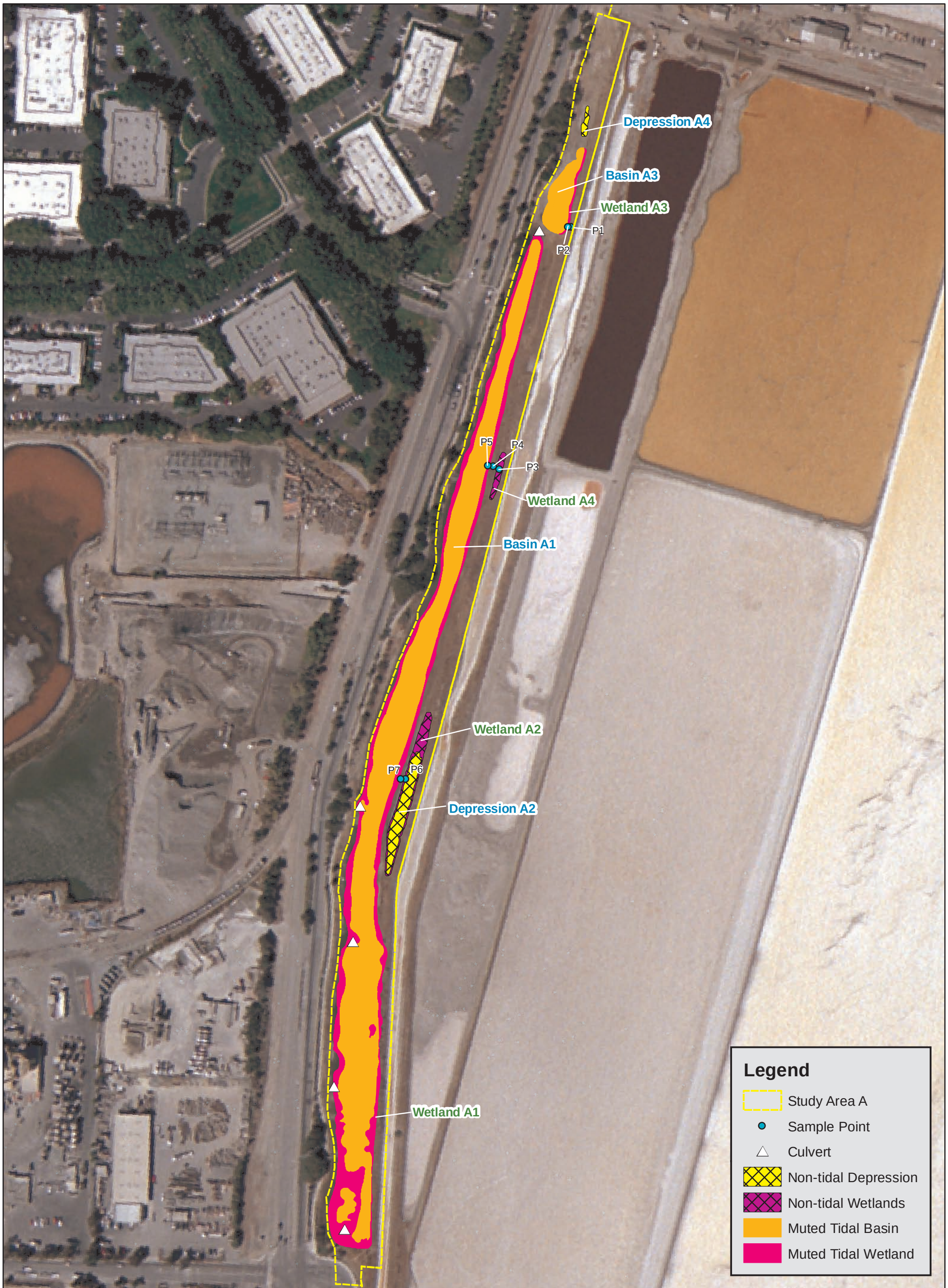

Figure A-1: Preliminary Jurisdictional Determination Map for Study Area A

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DMB Redwood City Saltworks
San Mateo County, California

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ENVIRONMENTAL CONSULTANTS

Image Date: August 2008
Image Source: Redwood City Industrial Salt Works
Map By: Sundaran Gillespie
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Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Seaport Levee/Channel Area **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant/Owner: DMB Saltworks, LLC **State:** CA **Sampling Point:** P1

Investigator(s): M. Josselyn, J. Semion **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): levee **Local Relief:** convex **Slope(%):** 5

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 58.1" N **Long:** 122 deg 12' 40.8" W **Datum:** WGS 84

Soil Map Unit Name: Water **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: No wetland indicators observed at sample point. Sample point is located in uplands.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Bromus diandrus*	60	Y	NL
2. *Hordeum marinum ssp. gussoneanum*	40	Y	FAC
3. *Hypochaeris radicata*	5		NL
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	105		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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?	2	(B)
% of dominant species that are OBL, FACW, or FAC?	50	(A/B)

Prevalence Index Worksheet

Total % cover of:			Multiply by:
OBL species	0	x1	0
FACW species	0	x2	0
FAC species	40	x3	120
FACU species	0	x4	0
UPL species	65	x5	325
Column Totals	105 (A)		445 (B)

Prevalence Index = B/A = 4.23

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.

Hydrophytic Vegetation Present ? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation not dominant at sample point.

SOIL

Sampling Point P1

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
0-12	10YR 3/1	60					clay	
	5YR 5/4	40					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soils not present at sample point.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches): _____
Water table present?	☐ Yes	☒ No	Depth (inches): _____
Saturation present? (includes capillary fringe)	☐ Yes	☒ No	Depth (inches): _____

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

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

Remarks: Wetland hydrology not present at sample point.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Seaport Levee/Channel Area **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant/Owner: DMB Saltworks, LLC **State:** CA **Sampling Point:** P2

Investigator(s): M. Josselyn, J. Semion **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): depression **Local Relief:** concave **Slope(%):** 1

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 58.1" N **Long:** 122 deg 12' 40.9" W **Datum:** WGS 84

Soil Map Unit Name: Water **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: All three wetland indicators observed at sample point. Sample point is located within wetland fringe.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Salicornia virginica*	100	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Hydrophytic vegetation dominant at sample point.

SOIL

Sampling Point P2

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[1]	Texture	Remarks
0-12	10YR 3/1	80	5YR 3/4	20	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soil indicator F6 observed at sample point. Evidence of saturated soils and wetland vegetation suggests this indicator is representative of current conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches): _____
Water table present?	☒ Yes	☐ No	Depth (inches): 6
Saturation present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 4

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

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

Remarks: Hydrology indicators A2 and A3 present at sample point.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Seaport Levee/Channel Area **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant/Owner: DMB Saltworks, LLC **State:** CA **Sampling Point:** P3

Investigator(s): M. Josselyn, J. Semion **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): depression on levee **Local Relief:** concave **Slope(%):** 1

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 52.7" N **Long:** 122 deg 12' 42.7" W **Datum:** WGS 84

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: All three wetland indicators observed at sample point. Sample point is located in a wetland depression on top of a levee.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Spergularia media*	40	Y	FACW
2. *Salicornia virginica*	30	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	70		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:	0		

% bare ground in herb stratum 30 % cover of biotic crust 0

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC? 2 (A)
Total number of dominant species across all strata? 2 (B)
% 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.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Relatively sparse vegetation within a depression.

SOIL

Sampling Point P3

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[1]	Texture	Remarks
0-4	10YR 3/1	99	7.5YR 3/3	1	C	M	gravelly clay	
4-12	10YR 3/1	96	7.5YR 3/3	4	C	M	gravelly clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soil indicator F6 observed at sample point. Evidence of saturated soils and wetland vegetation suggests this indicator is representative of current conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches):
Water table present?	☒ Yes	☐ No	Depth (inches): 6
Saturation present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 5

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

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

Remarks: Wetland hydrology indicator A3 observed at sample point. Soils are saturated.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Seaport Levee/Channel Area **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant/Owner: DMB Saltworks, LLC **State:** CA **Sampling Point:** P4

Investigator(s): M. Josselyn, J. Semion **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): levee **Local Relief:** convex **Slope(%):** 2

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 52.8" N **Long:** 122 deg 12' 42.9" W **Datum:** WGS 84

Soil Map Unit Name: Water **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: No wetland indicators observed at sample point. Sample point is located in upland on top of a levee.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Bromus diandrus*	80	Y	NL
2. *Geranium molle*	10		NL
3. *Hordeum marinum ssp. gussoneanum*	10		FAC
4. *Salicornia virginica*	5		OBL
5. *Brassica sp.*	5		
6.			
7.			
8.			
Herb Stratum Total Cover:	105		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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?	0	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	0	(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.

Hydrophytic Vegetation Present ? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation not dominant at sample point.

SOIL

Sampling Point P4

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[1]	Texture	Remarks
0-12	10YR 3/1	100					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soils not present at sample point. No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches): _____
Water table present?	☐ Yes	☒ No	Depth (inches): _____
Saturation present? (includes capillary fringe)	☐ Yes	☒ No	Depth (inches): _____

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

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

Remarks: Wetland hydrology not present at sample point.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Seaport Levee/Channel Area **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant/Owner: DMB Saltworks, LLC **State:** CA **Sampling Point:** P5

Investigator(s): M. Josselyn, J. Semion **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): levee slope **Local Relief:** none **Slope(%):** 5

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 52.8" N **Long:** 122 deg 12' 43.0" W **Datum:** WGS 84

Soil Map Unit Name: Water **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	**Is the Sampled Area within a Wetland?** ☒ **Yes** ☐ **No**
Hydric Soil Present?	☒ Yes ☐ No	
Wetland Hydrology Present?	☒ Yes ☐ No	

Remarks: All three wetland indicators observed at sample point. Sample point is located within wetland fringe.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Salicornia virginica*	100	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Hydrophytic vegetation dominant at sample point.

SOIL

Sampling Point P5

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[1]	Texture	Remarks
0-12	10YR 3/2	90	7.5YR 3/3	10	C	PL	gravelly clay	Concentrations present in matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soil indicator F6 observed at sample point. Evidence of saturated soils and wetland vegetation suggests this indicator is representative of current conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches): _____
Water table present?	☐ Yes	☒ No	Depth (inches): _____
Saturation present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 7

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

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

Remarks: Wetland hydrology indicator A3 observed at sample point.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Seaport Levee/Channel Area **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant/Owner: DMB Saltworks, LLC **State:** CA **Sampling Point:** P6

Investigator(s): M. Josselyn, J. Semion **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): depression **Local Relief:** concave **Slope(%):** 1

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 45.9" N **Long:** 122 deg 12' 45.1" W **Datum:** WGS 84

Soil Map Unit Name: Water **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: All three wetland indicators observed at sample point. Sample point is located within wetland depression on the top of a levee.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Salicornia virginica*	80	Y	OBL
2. *Hordeum marinum ssp. gussoneanum*	20		FAC
3. *Spergularia media*	10		FACW
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	110		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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	80	x1	80
FACW species	10	x2	20
FAC species	20	x3	60
FACU species		x4	
UPL species		x5	
Column Totals	110 (A)		160 (B)

Prevalence Index = B/A = 1.5

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.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Hydrophytic vegetation dominant at sample point.

SOIL

Sampling Point P6

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[1]	Texture	Remarks
0-14	10YR 3/1	98	10YR 3/4	2	C	M	gravelly clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soil indicator F6 observed at sample point. Evidence of saturated soils and wetland vegetation suggests this indicator is representative of current conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches): _____
Water table present?	☐ Yes	☒ No	Depth (inches): _____
Saturation present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 7

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

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

Remarks: Wetland hydrology indicator A3 observed at sample point. Soils are saturated.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Seaport Levee/Channel Area **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant/Owner: DMB Saltworks, LLC **State:** CA **Sampling Point:** P7

Investigator(s): M. Josselyn, J. Semion **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): levee top **Local Relief:** none **Slope(%):** none

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 45.8" N **Long:** 122 deg 12' 45.3" W **Datum:** WGS 84

Soil Map Unit Name: Water **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: Sample point is located on an upland levee and does not meet wetland indicators under current conditions.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Bromus diandrus*	70	Y	NL
2. *Lolium multiflorum*	20	Y	FAC
3. *Brassica nigra*	10		NL
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:			
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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?	2	(B)
% of dominant species that are OBL, FACW, or FAC?	50	(A/B)

Prevalence Index Worksheet

	Total % cover of:		Multiply by:
OBL species	0	x1	0
FACW species	0	x2	0
FAC species	20	x3	60
FACU species	0	x4	0
UPL species	80	x5	400
Column Totals	100 (A)		460 (B)

Prevalence Index = B/A = 4.6

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.

Hydrophytic Vegetation Present ? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation not dominant at sample point.

SOIL

Sampling Point P7

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[1]	Texture	Remarks
0-14	10YR 3/1	98	7.5YR 4/3	2	C	M	gravelly clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Soil indicator (hydric soil indicator F6) is not representative of current conditions, but is a relict feature as defined in the Arid West Manual (page 97-98) due to use of dredged materials from the Bay for creation of levees. Soil indicator does not represent current conditions and soils do not meet the definition of a hydric soil. Therefore, hydric soils are not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches): _____
Water table present?	☐ Yes	☒ No	Depth (inches): _____
Saturation present? (includes capillary fringe)	☐ Yes	☒ No	Depth (inches): _____

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

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

Remarks: No wetland hydrology indicators observed at sample point.

STUDY AREA B: REGIONAL STORM DRAIN CHANNEL AREA

PRELIMINARY JURISDICTIONAL FORM

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PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: San Francisco District | File/ORM #: | PJD Date: October 2009

State: CA | City/County: Redwood City/San Mateo County

Nearest Waterbody: South San Francisco Bay

Location: TRS, LatLong or UTM: Saltworks Study Area B: Regional Storm Drain Channel Area (lat/long 37.48, -122.19).

Name/ Address of Person Requesting PJD: DMB Redwood City Saltworks
DMB Saltworks, LLC
1700 Seaport Boulevard Suite 200
Redwood City, California 94603

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: n/a linear ft | n/a width | 3.0 acres | Stream Flow: N/A

Wetlands: 5.7 acre(s) | Cowardin Class: varies, see following page

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: none | Non-Tidal: none

☐ Office (Desk) Determination
☑ Field Determination: Date of Field Trip: Jan-Feb 2008

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Figure B-1 (WRA, 2009)
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Palo Alto (1991)
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA 1991. Soil Survey of San Mateo Cnty (East). (see Note 1, following page)
- ☑ National wetlands inventory map(s). Cite name: Palo Alto (see Note 2, following page)
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: 060325 0012B
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): Aerial provided by Saltworks, dated August 2008
  - ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☑ Other information (please specify): January 16, 1940 War Department Permit

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office	San Francisco District	File/ORM #		PJD Date:	October 2009
State	CA	City/County	Redwood City/San Mateo	Person Requestinq PJD	DMB Saltworks, LLC

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
Wet. B1	37.488878	-122.199638	Palustrine, emergent	3.6 acres	non-tidal wetland, see note 3
Wet. B2	37.488899	-122.202778	Palustrine, emergent	2.1 acres	non-tidal wetland, see note 3
Drain B1	37.488339	-122.196746	Lacustrine	2.8 acres	non-tidal water, unvegetated, see note 3
Drain B2	37.486984	-122.179163	Lacustrine	0.2 acre	non-tidal water, unvegetated, see note 3

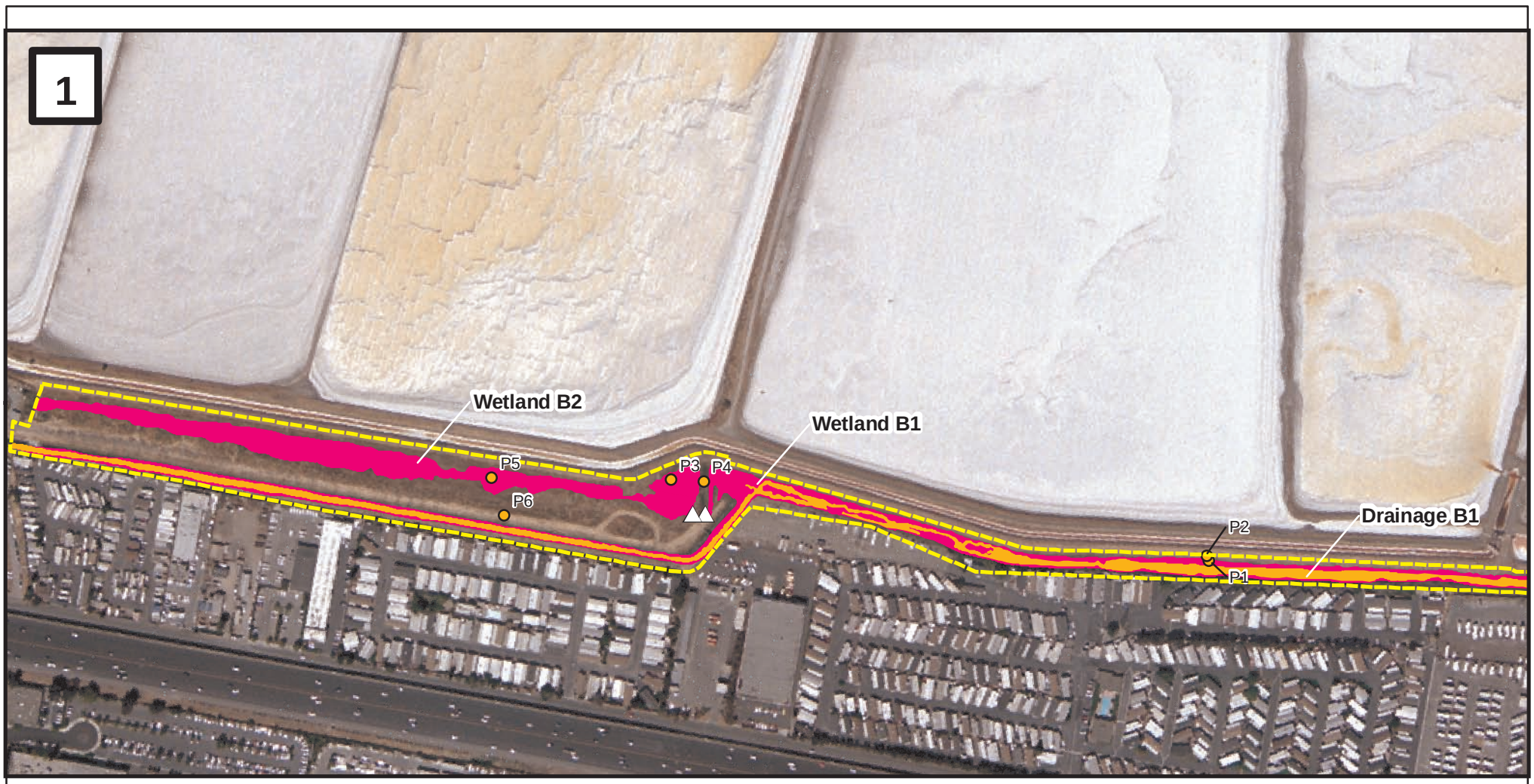
Notes:

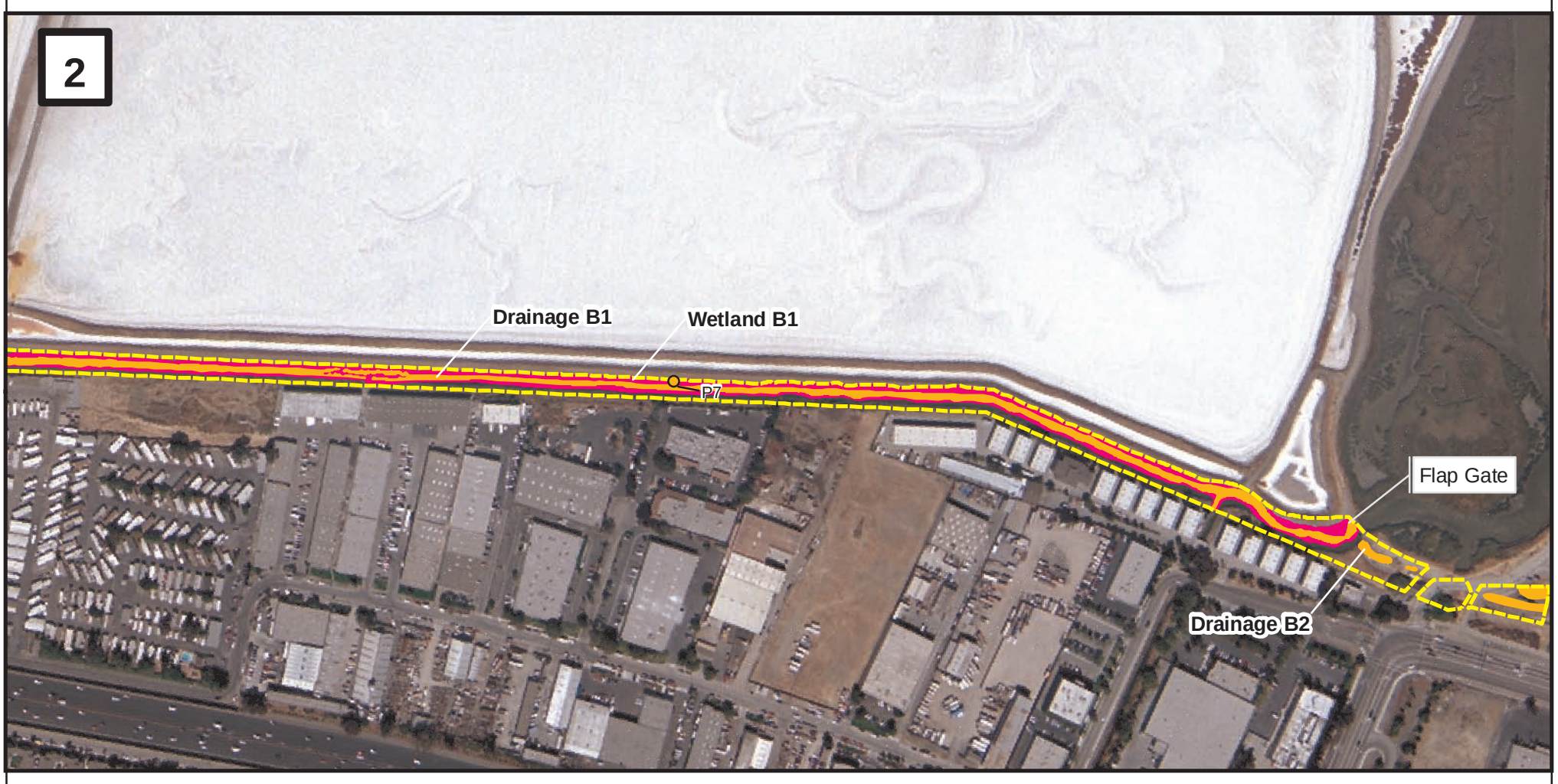
Drainage B1 and Drainage B2 are unvegetated portions of two managed regional storm drain ditches. Wetland B1 is a vegetated fringe of a managed regional storm drain ditch (Drainage B1). Wetland B2 is a seasonal wetland depression adjacent to the managed regional storm drain ditch.

Note 1. Per the Arid West Manual (page 34), soil survey information from the USDA Soil maps "is not site specific and does not preclude the need for on-site investigation." (See also USDA soil extent mapping tool at http://www.cei/psu.edu/soiltool: "these maps are suited for general information exploration and are not intended for site-specific investigations.") Here, the USDA Soil maps do not represent actual site conditions.

Note 2. For National Wetland Inventory maps: Note that the National Wetlands Inventory and associated classification system is not intended to produce legal or regulatory products or be used as the basis for determining the amount or type of jurisdictional area present (http://www.fws.gov/wetlands/faqs.html#legal; Wetland Delineation Manual, Corps 1987). The National Wetland Inventory mapped boundaries and Cowardin wetland classification shown on the 1985 NWI map is not representative of actual conditions observed in the field.

Note 3. Form prepared for use under RGL No. 08-02 only. Applicant reserves all rights to challenge jurisdictional issues in the future.





Legend

- Study Area B
- Sample Point
- Culvert
- Non-tidal Waters
- Non-tidal Wetlands

Figure B-1: Preliminary Jurisdictional Determination Map for Study Area B

Figure for use under RGL No.08-02 only; all rights reserved

DMB Redwood City Saltworks
San Mateo County, California

N
W E
S

0 200 400 800 Feet

wra
ENVIRONMENTAL CONSULTANTS

Image Date: August 2008
Image Source: Redwood City Industrial Salt Works
Map By: Sundaran Gillespie
Filepath: L:\Acad 2000 Files\07000\7062\gis\arcmap\Nov 09 Updated Report\Figure 6.mxd

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Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Regional Storm Drain Channel **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant: DMB Saltworks, LLC **State:** CA **Sampling Point:** P1

Investigator(s): M. Josselyn, G. Smick **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): drainage channel **Local Relief:** concave slope **Slope(%):** 2

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 18.15" N **Long:** 122 deg 11' 42.17 " W **Datum:** WGS 84

Soil Map Unit Name: Novato Clay, 0 to 1 percent slope **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	**Is the Sampled Area within a Wetland?** ☒ **Yes** ☐ **No**
Hydric Soil Present?	☒ Yes ☐ No	
Wetland Hydrology Present?	☒ Yes ☐ No	

Remarks: All three wetland indicators observed at sample point. Sample point is located in wetland fringe surrounding drainage.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Grindelia stricta var. angustifolia*	40	Y	FACW
2. *Distichlis spicata*	40	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	80		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:	0		

% bare ground in herb stratum 20 % cover of biotic crust 0

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC?	2	(A)
Total number of dominant species across all strata?	2	(B)
% 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.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Hydrophytic vegetation dominant at sample point.

SOIL

Sampling Point P1

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[1]	Texture	Remarks
0-12	10YR 2/1	60	10YR 4/6	2	C	RC	mucky clay	
0-12	Gley1 4/N	40					mucky clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soil indicator F6 observed at sample point. Mixed matrix is indicative of disturbed soil conditions. Observed vegetation and hydrology indicates current conditions support hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☒ Water Marks (B1)(Riverine)
- ☒ Sediment Deposits (B2)(Riverine)
- ☒ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☒ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches):
Water table present?	☒ Yes	☐ No	Depth (inches): 8
Saturation present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 4-5

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

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

Remarks: Primary wetland hydrology indicators A3, B9 and C3 observed at sample point. Secondary wetland hydrology indicators B1, B2, B3 and C7 also present at sample point.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Regional Storm Drain Channel **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant: DMB Saltworks, LLC **State:** CA **Sampling Point:** P2

Investigator(s): M. Josselyn, G. Smick **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): levee **Local Relief:** none **Slope(%):** 10

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 18.28" N **Long:** 122 deg 11' 42.23 " W **Datum:** WGS 84

Soil Map Unit Name: Novato Clay, 0 to 1 percent slope **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: Upland paired point with sample point P1. No wetland criteria met. Sample point is located in uplands.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Raphanus sativus*	90	Y	NL
2. *Geranium molle*	10		NL
3. *Medicago polymorpha*	10		NL
4. *Malva nicaeensis*	10		NL
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	120		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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?	0	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	0	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species	120	x5	600
Column Totals	120 (A)		600 (B)

Prevalence Index = B/A = 5

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.

Hydrophytic Vegetation Present ? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation not dominant at sample point.

SOIL

Sampling Point P2

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[1]	Texture	Remarks
0-12	10YR 3/2	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: No hydric soil indicators observed at sample point.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches): _____
Water table present?	☐ Yes	☒ No	Depth (inches): _____
Saturation present? (includes capillary fringe)	☐ Yes	☒ No	Depth (inches): _____

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

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

Remarks: No wetland hydrology indicators observed at sample point.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Regional Storm Drain Channel **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant: DMB Saltworks, LLC **State:** CA **Sampling Point:** P3

Investigator(s): M. Josselyn, G. Smick **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): depression **Local Relief:** none **Slope(%):** 0

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 20.09" N **Long:** 122 deg 12' 00.63" W **Datum:** WGS 84

Soil Map Unit Name: Urban Land-orthents, Reclaimed Complex, 0 to 2 percent slope **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	**Is the Sampled Area within a Wetland?** ☒ **Yes** ☐ **No**
Hydric Soil Present?	☒ Yes ☐ No	
Wetland Hydrology Present?	☒ Yes ☐ No	

Remarks: All three wetland indicators observed at sample point. Sample point is located in a wetland depression west of the channel. This wetland is connected to the channel via a culvert.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Salicornia virginica*	70	Y	OBL
2. *Distichlis spicata*	40	Y	FACW
3. *Cotula coronopifolia*	20		FACW+
4. *Frankenia salina*	20		FACW+
5. *Rumex crispus*	20		FACW-
6. *Plantago coronopus*	10		FAC
7. *Xanthium strumarium*	5		FAC+
8.			
Herb Stratum Total Cover:	185		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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?	2	(A)
Total number of dominant species across all strata?	2	(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.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Hydrophytic vegetation dominant at sample point.

SOIL

Sampling Point P3

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[1]	Texture	Remarks
0-12	Gley 1 4/N	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soil indicator F2 observed at sample point. Observed vegetation and hydrology indicates current conditions support hydric soils.

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): 0-3
Water table present?	☒ Yes	☐ No	Depth (inches): 0
Saturation present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 0

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

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

Remarks: Ponding and saturated soils observed at sample point. Sample point meets wetland hydrology criterion.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Regional Storm Drain Channel **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant: DMB Saltworks, LLC **State:** CA **Sampling Point:** P4

Investigator(s): M. Josselyn, G. Smick **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): levee **Local Relief:** flat **Slope(%):** 0

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 20.05" N **Long:** 122 deg 11' 59.51" W **Datum:** WGS 84

Soil Map Unit Name: Urban Land-orthents, Reclaimed Complex, 0 to 2 percent slope **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: Upland paired point with sample point P3. Sample point is located on a levee. No wetland criteria satisfied.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Raphanus sativus*	40	Y	NL
2. *Foeniculum vulgare*	30	Y	FACU
3. *Medicago polymorpha*	15		NL
4. *Malva nicaeensis*	10		NL
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	95		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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?	0	(A)
Total number of dominant species across all strata?	2	(B)
% of dominant species that are OBL, FACW, or FAC?	0	(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.

Hydrophytic Vegetation Present ? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation not dominant at sample point.

SOIL

Sampling Point P4

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[1]	Texture	Remarks
0-12	10YR 3/2	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: No hydric soil indicators observed at sample point.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches): _____
Water table present?	☐ Yes	☒ No	Depth (inches): _____
Saturation present? (includes capillary fringe)	☐ Yes	☒ No	Depth (inches): _____

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

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

Remarks: No wetland hydrology indicators observed at sample point.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Regional Storm Drain Channel **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant: DMB Saltworks, LLC **State:** CA **Sampling Point:** P5

Investigator(s): M. Josselyn, G. Smick **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): depression **Local Relief:** flat **Slope(%):** 0

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 20.04" N **Long:** 122 deg 12' 06.78" W **Datum:** WGS 84

Soil Map Unit Name: Novato Clay, 0 to 1 percent slope **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: All three wetland indicators observed at sample point. Sample point is located in a seasonal wetland depression west of the channel. This wetland is connected to the channel via a culvert.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Rumex crispus*	30	Y	FACW-
2. *Distichlis spicata*	30	Y	FACW
3. *Picris echioides*	20	Y	FAC
4. *Polypogon monspeliensis*	20	Y	FACW
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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? 4 (A)
Total number of dominant species across all strata? 4 (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.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Hydrophytic vegetation dominant at sample point.

SOIL

Sampling Point P5

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
0-14	Gley1 4/N	70					clay	
0-14	10YR 2/1	30					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soil indicator F2 observed at sample point; soil is saturated. Mixed matrix is indicative of disturbed soil conditions. Observed vegetation and hydrology indicates current conditions support hydric soils.

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):	+1
Water table present?	☒ Yes	☐ No	Depth (inches):	0
Saturation present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches):	0

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

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

Remarks: Wetland hydrology indicators A1 and A3 observed at sample point.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Regional Storm Drain Channel **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant: DMB Saltworks, LLC **State:** CA **Sampling Point:** P6

Investigator(s): M. Josselyn, G. Smick **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): upland area **Local Relief:** flat **Slope(%):** 0

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 19.03" N **Long:** 122 deg 12' 06.33" W **Datum:** WGS 84

Soil Map Unit Name: Urban Land-orthents, Reclaimed Complex, 0 to 2 percent slope **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: Upland paired point with sample point P5. Sample point is located on a levee.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Lolium multiflorum*	40	Y	FAC
2. *Anethum graveolens*	30	Y	NL
3. *Medicago polymorpha*	30	Y	NL
4. *Geranium molle*	10		NL
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	105		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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?	3	(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.

Hydrophytic Vegetation Present ? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation species are not dominant at sample point.

SOIL

Sampling Point P6

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[1]	Texture	Remarks
0-12	10YR 3/2	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: No hydric soil indicators observed at sample point.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches): _____
Water table present?	☐ Yes	☒ No	Depth (inches): _____
Saturation present? (includes capillary fringe)	☐ Yes	☒ No	Depth (inches): _____

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

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

Remarks: No wetland hydrology indicators observed at sample point.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Regional Storm Drain Channel **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant: DMB Saltworks, LLC **State:** CA **Sampling Point:** P7

Investigator(s): M. Josselyn, G. Smick **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): drainage channel **Local Relief:** none - flat **Slope(%):** 0

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 17.47" N **Long:** 122 deg 11' 08.65" W **Datum:** WGS 84

Soil Map Unit Name: Novato Clay, 0 to 1 percent slope **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: All three wetland indicators observed at sample point. Sample point is located in a wetland fringe along the channel.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Grindelia stricta var. angustifolia*	80	Y	FACW
2. *Salicornia virginica*	20		OBL
3. *Salsola tragus*	5		FACW+
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	105		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:	0		

% bare ground in herb stratum 5 % cover of biotic crust 0

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC?	1	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

	Total % cover of:		Multiply by:	
OBL species	20	x1	20	
FACW species	85	x2	170	
FAC species		x3		
FACU species		x4		
UPL species		x5		
Column Totals	105	(A)	190	(B)

Prevalence Index = B/A = 1.8

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.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Hydrophytic vegetation dominant at sample point.

SOIL

Sampling Point P7

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
0-14	10YR 3/2	40					mucky clay	high organic content
0-14	10YR 2/1	30					mucky clay	high organic content
0-14	Gley1 4/N	30					mucky clay	gleyed high organic content

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soil indicator A1 observed at sample point. Mixed matrix is indicative of disturbed soil conditions. Observed vegetation and hydrology indicates current conditions support hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☒ Water Marks (B1)(Riverine)
- ☒ Sediment Deposits (B2)(Riverine)
- ☒ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☒ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches):
Water table present?	☒ Yes	☐ No	Depth (inches): 5
Saturation present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 3

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

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

Remarks: Primary and secondary indicators of wetland hydrology observed at sample point.

STUDY AREA C: OUTBOARD LEVEE WATERFRONT AREA

PRELIMINARY JURISDICTIONAL FORM

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PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: San Francisco District | File/ORM #: | PJD Date: October 2009

State: CA | City/County: Redwood City/San Mateo County

Nearest Waterbody: South San Francisco Bay

Location: TRS, LatLong or UTM: Saltworks Study Area C: Outboard of Levee Waterfront Area (lat/long 37.50, -122.19).

Name/ Address of Person Requesting PJD: DMB Redwood City Saltworks
DMB Saltworks, LLC
1700 Seaport Boulevard Suite 200
Redwood City, California 94603

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: 0 linear ft | 0 width | 45.1 acres | Stream Flow: N/A

Wetlands: 41.2 acre(s) | Cowardin Class: varies, see following page

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: First Slough, Westpoint Slough, Flood Slough | Non-Tidal: none

☐ Office (Desk) Determination
☑ Field Determination: Date of Field Trip: Jan-Feb 2008

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Figure C-1 (WRA, 2009)
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Redwood Point (1993), Palo Alto (1991)
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA 1991. Soil Survey of San Mateo Cnty (East). (see Note 1, following page)
- ☑ National wetlands inventory map(s). Cite name: Redwood Point, Palo Alto (see Note 2, following page)
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: 060325 0012B, 060325 0009B
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): Aerial provided by Saltworks, dated August 2008
  - ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☑ Other information (please specify): January 16, 1940 War Department Permit

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office	San Francisco District	File/ORM #		PJD Date:	October 2009
State	CA	City/County	Redwood City/San Mateo County	Person Requestinq PJD	DMB Saltworks, LLC

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
Wetland	37.50	-122.19	Estuarine	41.3 acres	tidal wetland, see note 3
Waters	37.50	-122.19	Estuarine	44.0 acres	tidal waters, unvegetated, see note 3

Notes:

With respect to the sites listed above, mapped wetlands and waters consist of tidal areas outboard of the levees surrounding the Salt Production Facility, including wetlands, mudflat, open water, and other vegetated areas below the High Tide Line not meeting the wetland criteria.

Note 1. Per the Arid West Manual (page 34), soil survey information from the USDA Soil maps "is not site specific and does not preclude the need for on-site investigation." (See also USDA soil extent mapping tool at http://www.cei/psu.edu/soiltool: "these maps are suited for general information exploration and are not intended for site-specific investigations.") Here, the USDA Soil maps do not represent actual site conditions.

Note 2. For National Wetland Inventory maps: Note that the National Wetlands Inventory and associated classification system is not intended to produce legal or regulatory products or be used as the basis for determining the amount or type of jurisdictional area present (http://www.fws.gov/wetlands/faqs.html#legal; Wetland Delineation Manual, Corps 1987). The National Wetland Inventory mapped boundaries and Cowardin wetland classification shown on the 1985 NWI map is not representative of actual conditions observed in the field.

Note 3. Form prepared for use under RGL No. 08-02 only. Applicant reserves all rights to challenge jurisdictional issues in the future.

Figure C-1. Preliminary Jurisdictional Determination Map for Study Area C

Figure for use under RGL No.08-02 only; all rights reserved

N
W E
S

0 200 400 800 1,200 1,600 Feet

wra
ENVIRONMENTAL CONSULTANTS

Image Date: August 2008
Image Source: Redwood City Industrial Salt Works
Map By: Sundaran Gillespie
Filepath: L:\Acad 2000 Files\07000\7062\gis\arcmap\Nov 09 Updated Report\Figure 8.mxd

DMB Redwood City Saltworks
San Mateo County, California

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Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Outboard of Levee Waterfront **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant/Owner: DMB Saltworks, LLC **State:** CA **Sampling Point:** P1

Investigator(s): Mike Josselyn, Rosie Wilson, Morgan Trieger **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): tidal salt marsh terrace **Local Relief:** none **Slope(%):** <1

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 30' 16.51" N **Long:** 122 deg 11' 51.22" W **Datum:** WGS 84

Soil Map Unit Name: Novato clay, 0 to1 percent slopes, ponded **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: All three wetland criteria met. Sample point is located in a tidal salt marsh wetland.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Salicornia virginica*	99	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	99		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:	0		

% bare ground in herb stratum 1 % 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.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Hydrophytic vegetation dominant at sample point.

SOIL

Sampling Point P1

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[1]	Texture	Remarks
0-6	N 2.5/0	100					muck	high organic content
6-16	2.5Y 3/1	100					muck	high organic content

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soil indicators A1, A4 and A9 observed. Hydrology observations and landscape position indicate that the hydric soil conditions are current. Soil is hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches): _____
Water table present?	☒ Yes	☐ No	Depth (inches): 2
Saturation present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 0

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

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

Remarks: Wetland hydrology indicators A2, A3 and C1 observed.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Outboard of Levee Waterfront **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant/Owner: DMB Saltworks, LLC **State:** CA **Sampling Point:** P2

Investigator(s): Mike Josselyn, Rosie Wilson, Morgan Trieger **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): tidal salt marsh terrace **Local Relief:** none **Slope(%):** <1

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 30' 07.57" N **Long:** 122 deg 11' 29.90" W **Datum:** WGS 84

Soil Map Unit Name: Novato clay, 0 to1 percent slopes, ponded **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: All three wetland criteria met. Sample point is located in a tidal salt marsh wetland.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Salicornia virginica*	99	Y	OBL
2. *Spartina alterniflora*	1		OBL
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Hydrophytic vegetation dominant at sample point.

SOIL

Sampling Point P2

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[1]	Texture	Remarks
0-3	N 4/0	90	5Y 4/3	10			muck	high organic content
3-20	N 4/0	100					muck	high organic content

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soil indicators observed. Tidal marsh soils. Hydrology observations and landscape position indicate that the hydric soil conditions are current. Soil is hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches): _____
Water table present?	☒ Yes	☐ No	Depth (inches): 8
Saturation present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 0

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

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

Remarks: Wetland hydrology indicators A2, A3, B3 and C1 observed at sample point.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Outboard of Levee Waterfront **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant/Owner: DMB Saltworks, LLC **State:** CA **Sampling Point:** P3

Investigator(s): Mike Josselyn, Rosie Wilson, Morgan Trieger **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): tidal salt marsh terrace **Local Relief:** none **Slope(%):** 1

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 30' 13.53" N **Long:** 122 deg 10' 48.62" W **Datum:** WGS 84

Soil Map Unit Name: Novato clay, 0 to1 percent slopes, ponded **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	**Is the Sampled Area within a Wetland?** ☒ **Yes** ☐ **No**
Hydric Soil Present?	☒ Yes ☐ No	
Wetland Hydrology Present?	☒ Yes ☐ No	

Remarks: All three wetland criteria met. Sample point is located in a tidal salt marsh wetland.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Salicornia virginica*	95	Y	OBL
2. *Spartina alterniflora*	1		OBL
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	96		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:	0		

% bare ground in herb stratum 5 % cover of biotic crust 0

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC?	1	(A)
Total number of dominant species across all strata?	1	(B)
% 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.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Hydrophytic vegetation dominant at sample point. 5% mudflats. Algal matting 2%.

SOIL

Sampling Point P3

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
0-5	10Y 4/1	90	7.5YR 5/8	5	C	M	muck	high organic content
			10YR 2/1	5	C	M	muck	high organic content
5-16	10Y 4/1	98	N 2.5/0	2	C	M	muck	high organic content

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soil indicators A1 and A4 observed at sample point. Hydrology observations and landscape position indicate that the hydric soil conditions are current. Soil is hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches): _____
Water table present?	☒ Yes	☐ No	Depth (inches): 16
Saturation present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 0

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

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

Remarks: Wetland hydrology indicators A3, B3 and B13 observed at sample point. Algal mats present.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Outboard of Levee Waterfront **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant/Owner: DMB Saltworks, LLC **State:** CA **Sampling Point:** P4

Investigator(s): Mike Josselyn, Rosie Wilson, Morgan Trieger **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): tidal salt marsh terrace **Local Relief:** none **Slope(%):** 1

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 51.96" N **Long:** 122 deg 10' 43.00" W **Datum:** WGS 84

Soil Map Unit Name: Novato clay, 0 to1 percent slopes, ponded **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	**Is the Sampled Area within a Wetland?** ☒ **Yes** ☐ **No**
Hydric Soil Present?	☒ Yes ☐ No	
Wetland Hydrology Present?	☒ Yes ☐ No	

Remarks: All three wetland criteria met. Sample point is located in a tidal salt marsh wetland.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Salicornia virginica*	98	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	98		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:	0		

% bare ground in herb stratum 2 % 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.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Hydrophytic vegetation dominant at sample point.

SOIL

Sampling Point P4

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[1]	Texture	Remarks
0-16	10Y 4/1	98	5YR 5/8	2	C	M	muck	high organic content

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soil indicators A1 and A4 observed at sample point. Hydrology observations and landscape position indicate that the hydric soil conditions are current. Soil is hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches):
Water table present?	☒ Yes	☐ No	Depth (inches): 10
Saturation present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 2

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

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

Remarks: Wetland hydrology indicators A2, A3, B3 and C1 observed at sample point.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Outboard of Levee Waterfront **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant/Owner: DMB Saltworks, LLC **State:** CA **Sampling Point:** P5

Investigator(s): Mike Josselyn, Geoff A. Smick **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): levee slope **Local Relief:** none **Slope(%):** 1

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 19.45" N **Long:** 122 deg 10' 44.38" W **Datum:** WGS 84

Soil Map Unit Name: Novato clay, 0 to1 percent slopes, ponded **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	**Is the Sampled Area within a Wetland?** ☒ **Yes** ☐ **No**
Hydric Soil Present?	☒ Yes ☐ No	
Wetland Hydrology Present?	☒ Yes ☐ No	

Remarks: All three wetland indicators observed at sample point. Sample point is located in a tidal marsh wetland.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Salicornia virginica*	80	Y	OBL
2. *Grindelia stricta var. angustifolia*	10		FACW
3. *Distichlis spicata*	10		FACW
4. *Frankenia salina*	5		FACW+
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	105		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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	80	x1	80	
FACW species	25	x2	50	
FAC species		x3		
FACU species		x4		
UPL species		x5		
Column Totals	105	(A)	130	(B)

Prevalence Index = B/A = 1.2

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.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Hydrophytic vegetation dominant at sample point.

SOIL

Sampling Point P5

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[1]	Texture	Remarks
0-4	10YR 3/2	100	none				clay	
4-12	Gley 1 4/10Y	100	none				clay	gleyed clay soils

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Hydric soil indicator F2 observed at sample point. Hydrology observations and landscape position indicate that the hydric soil conditions are current. Soil is hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches):
Water table present?	☒ Yes	☐ No	Depth (inches): 8
Saturation present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 4

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

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

Remarks: Three primary wetland hydrology indicators (A2, A3, B2) observed at sample point.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Outboard of Levee Waterfront **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant/Owner: DMB Saltworks, LLC **State:** CA **Sampling Point:** P6

Investigator(s): Mike Josselyn, Geoff A. Smick **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): tidal salt marsh terrace **Local Relief:** none **Slope(%):** 1

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 19.00" N **Long:** 122 deg 10' 45.03" W **Datum:** WGS 84

Soil Map Unit Name: Novato clay, 0 to1 percent slopes, ponded **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	**Is the Sampled Area within a Wetland?** ☒ **Yes** ☐ **No**
Hydric Soil Present?	☒ Yes ☐ No	
Wetland Hydrology Present?	☒ Yes ☐ No	

Remarks: All three wetland criteria observed at sample point. Sample point is located in a transitional zone within a tidal salt marsh wetland.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Frankenia salina*	40	Y	FACW+
2. *Grindelia stricta var. angustifolia*	30	Y	FACW
3. *Distichlis spicata*	20		FACW
4. *Salicornia virginica*	15		OBL
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	105		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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?	2	(A)
Total number of dominant species across all strata?	2	(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.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: Hydrophytic vegetation dominant at sample point.

SOIL

Sampling Point P6

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[1]	Texture	Remarks
0-2	N2.5/0	100						organic matter
2-4	10YR 2/2	50						
	10YR 4/1	50						
4-12	10YR 4/1	70						
	N 2.5/0	30						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Soil profile represents a mixed matrix comprised of dredge material. No hydric soil indicators are present. However, hydrology observations and landscape position indicate that the hydric soil conditions are present. Soil is hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches): _____
Water table present?	☐ Yes	☒ No	Depth (inches): _____
Saturation present? (includes capillary fringe)	☐ Yes	☒ No	Depth (inches): _____

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

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

Remarks: Wetland hydrology indicators B3, C3 and D5 observed.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Outboard of Levee Waterfront **City:** Redwood City **County:** San Mateo **Sampling Date:** 1/15/2008

Applicant/Owner: DMB Saltworks, LLC **State:** CA **Sampling Point:** P7

Investigator(s): Mike Josselyn, Geoff A. Smick **Section,Township,Range:** 15, T5S, R3W

Landform (hillslope, terrace, etc.): tidal salt marsh terrace **Local Relief:** none **Slope(%):** 1

Subregion (LRR): LRR C (Medit. CA) **Lat:** 37 deg 29' 17.67" N **Long:** 122 deg 10' 46.06" W **Datum:** WGS 84

Soil Map Unit Name: Novato clay, 0 to1 percent slopes, ponded **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: Representative sample point for areas below elevation of the High Tide Line but not meeting the wetland criteria.

VEGETATION

Tree Stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0		
Herb Stratum			
1. *Hordeum marunium ssp. gussoneanum*	60	Y	FAC
2. *Beta vulgaris*	20	Y	FACU
3. *Distichlis spicata*	10		FACW
4. *Oxalis corniculata*	5		FACU
5. *Frankenia salina*	5		FACW+
6.			
7.			
8.			
Herb Stratum Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum 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?	2	(B)
% of dominant species that are OBL, FACW, or FAC?	50	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species		x1
FACW species	15	x2 30
FAC species	60	x3 180
FACU species	25	x4 100
UPL species		x5
Column Totals	100 (A)	310 (B)

Prevalence Index = B/A = 3.1

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.

Hydrophytic Vegetation Present ? ☐ Yes ☒ No

Remarks: Does not meet dominance test or prevalence index

SOIL

Sampling Point P7

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
0-4	10YR 3/2	100					clay	no mottles
4-14	10YR 4/2	50					clay	
	10YR 6/2	25					clay	
	5YR 3/4	25					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks: Mixed matrix typical of dredged material placed in uplands. No hydric soil indicators are present. Other observations indicate that this area is above the normal extent of the tides, and does not remain saturated for a sufficient period fo time to meet the definition of a hydric soil. Soils are not hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☐ No Depth (inches): _____

Water table present? ☐ Yes ☐ No Depth (inches): _____

Saturation present? (includes capillary fringe) ☐ Yes ☐ No Depth (inches): _____

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

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

Remarks: No hydrology indicators observed at this sample point. Area is not saturated, and is above prominent rack and drift lines. Area is below the High Tide Line.

STUDY AREA D: SALT PRODUCTION FACILITY

PRELIMINARY JURISDICTIONAL FORM

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PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: San Francisco District | File/ORM #: | PJD Date: October 2009

State: CA | City/County: Redwood City/San Mateo County

Nearest Waterbody: South San Francisco Bay

Location: TRS, LatLong or UTM: Saltworks Study Area D: Salt Production Complex (lat/long 37.49, -122.19).

Name/ Address of Person Requesting PJD: DMB Redwood City Saltworks
DMB Saltworks, LLC
1700 Seaport Boulevard Suite 200
Redwood City, California 94603

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: n/a linear ft | n/a width | 1269.8 acres | Stream Flow: N/A

Wetlands: none acre(s) | Cowardin Class: see Note 1 following page

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: none | Non-Tidal: none

☐ Office (Desk) Determination
☑ Field Determination: Date of Field Trip: October 2009

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Figure D-1 (WRA, 2009)
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Redwood Point (1993), Palo Alto (1991)
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA 1991. Soil Survey of San Mateo Cnty (East). (see Note 2, following page)
- ☑ National wetlands inventory map(s). Cite name: Redwood Point, Palo Alto (see Note 1, following page)
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: 060325 0012B, 060325 0009B
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): Aerial provided by Saltworks, dated August 2008
  - ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☑ Other information (please specify): See Note 3.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office	San Francisco District	File/ORM #		PJD Date:	October 2009
State	CA	City/County	Redwood City/San Mateo County	Person Requestinq PJD	DMB Saltworks, LLC

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
Crystal	37.499602	-122.204769	n/a	526.6 acres	non-tidal, unvegetated, see note 4
Pickle	37.493308	-122.189395	n/a	436.7 acres	non-tidal, unvegetated, see note 4
Bittern	37.500797	-122.184972	n/a	245.1 acres	non-tidal, unvegetated, see note 4
Mul-Use	37.510039	-122.197060	n/a	61.4 acres	non-tidal, unvegetated, see note 4

Notes:

For Site Numbers Listed Above:

Crystal = Crystallizer Complex: 526.6 acres.

Pickle = Pickle Complex: 436.7 acres.

Bittern = Bittern Complex: 245.1 acres.

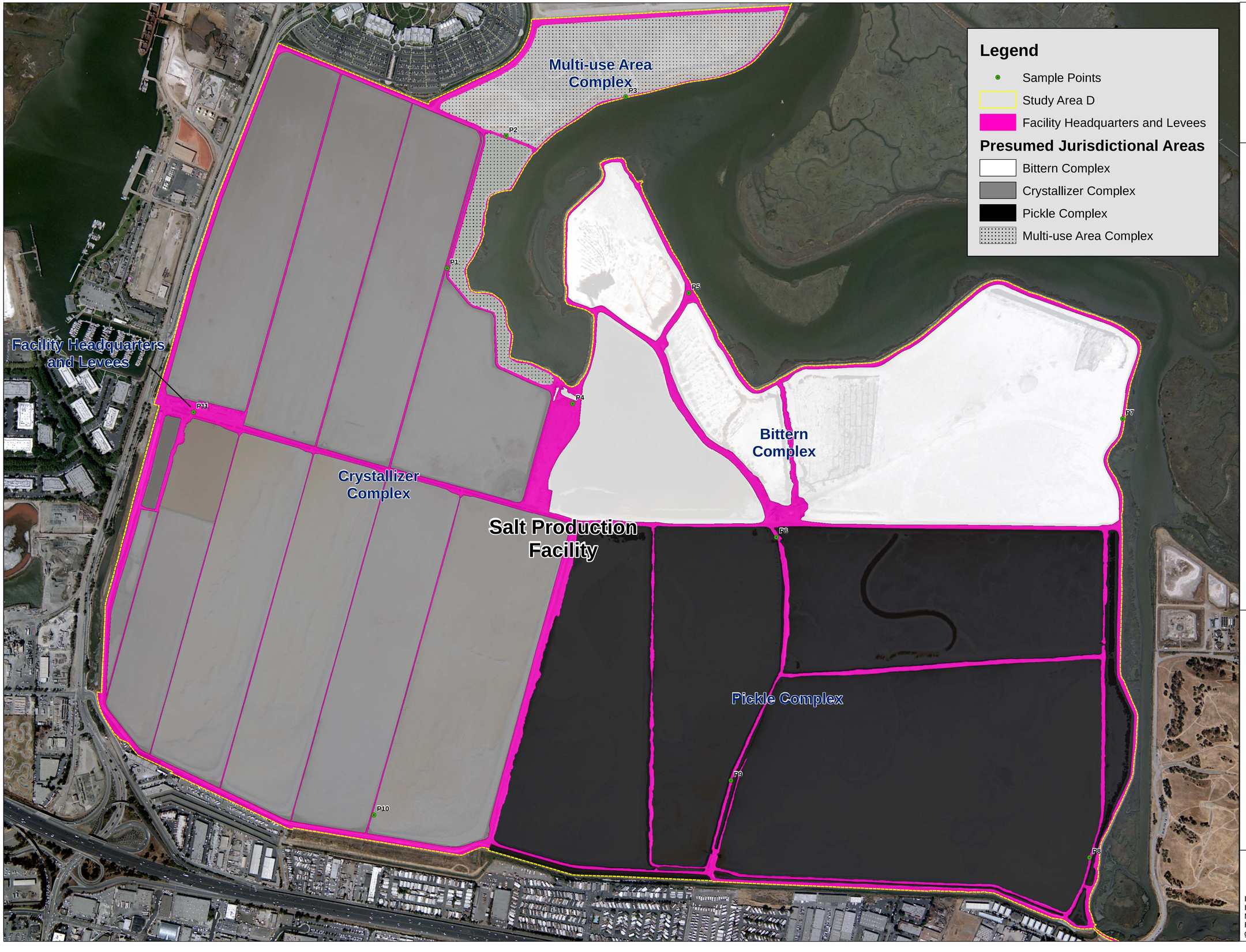
Mul-Use = Multi-Use Area Complex: 61.4 acres.

Note 1. The Salt Production Facility include cells utilized and managed as part of the industrial salt production process. Industrial solution (consisting of brines and pickles) is transferred between these salt production cells as needed to produce salt. Areas have been classified as "Lacustrine" under the Cowardin classification system on 1985 NWI maps. However, the Cowardin classification system was developed for natural systems. Therefore, the Cowardin classification used above is not applicable to observed conditions. The National Wetlands Inventory and associated classification system is not intended to produce legal or regulatory products or be used as the basis for determining the amount or type of jurisdictional area present (http://www.fws.gov/wetlands/faqs.html#legal; Wetland Delineation Manual, Corps 1987). The National Wetland Inventory mapped boundaries and Cowardin wetland classification shown on the 1985 NWI map is not representative of actual conditions observed in the field.

Note 2. Per the Arid West Manual (page 34), soil survey information from the USDA Soil maps "is not site specific and does not preclude the need for on-site investigation." (See also USDA soil extent mapping tool at http://www.cei/psu.edu/soiltool: "these maps are suited for general information exploration and are not intended for site-specific investigations.") Here, the USDA Soil maps do not represent actual site conditions.

Note 3. See War Department Permit (January 16, 1940); Letter from San Francisco District (June 28, 2002); Letter from EPA (July 17, 2002); Letter from Corps of Engineers Headquarters (October 2001)

Note 4. This form prepared for use under RGL No. 08-02 only. Applicant reserves all rights to challenge jurisdictional issues in the future.



wra
ENVIRONMENTAL CONSULTANTS
2169-G East Francisco Blvd.
San Rafael, CA 94901
(415) 454-8868 Phone
(415) 454-0129 Fax

DMB Redwood City Saltworks

San Mateo County, California

Figure D-1. Preliminary Jurisdictional Determination Map for Study Area D

Figure for use under RGL No.08-02 only; all rights reserved

This map is representational only, and not meant for use in detailed design.

N
W E
S

0 400 800 1,600
Feet

Image Date: August 2008
Image Source: Redwood City Industrial Salt Works
Map By: Sundaran Gillespie
Filepath: L:\Acad 2000 Files\07000\7062\gis\arcmap\Nov 09 Updated Report\Figure 10.mxd

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Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Salt Production Facility City: Redwood City County: San Mateo Sampling Date: 10/8/2009

Applicant/Owner: DMB Saltworks, LLC State: CA Sampling Point: **P1**

Investigator(s): Justin Semion, Amy Langston, Mike Josselyn Section,Township,Range: 15, T5S, R3W

Landform (hillslope, terrace, etc.): Levee Local Relief (concave, convex, none): none Slope(%): <1

Subregion(LRR): LRR C (Medit. CA) Lat: 37 deg 30' 16.30" N Long: 122 deg 12' 04.96" W Datum: WGS 84

Soil Map Unit Name: Novato Clay, 0 to 1 percent slopes, ponded 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: Sample point is along on levee with old railroad ties adjacent to crystallizer facility. None of the wetland criteria met; sample point is not within a wetland.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** _____	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			

SAPLING/SHRUB STRATUM **Plot Size:** _____			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			

HERB STRATUM **Plot Size:** _____			
1. *Mesembryanthemum crystallinum*	10	Y	NL
2. *Bassia hyssopifolia*	2		FAC
3. *Dittrichia graveolens*	10	Y	NL
4. *Bromus diandrus*	5		NL
5. *Distichlis spicata*	5		FACW
6. *Polypogon monspeliensis*	2		FACW
7.			
8.			
Herb Stratum Total Cover:	34		

WOODY VINE STRATUM **Plot Size:** _____			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum: 60 % cover of biotic crust: _____

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	0	(A)
Total number of dominant species across all strata?	2	(B)
% of dominant species that are OBL, FACW, or FAC?	0	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species		x1
FACW species	7	x2 14
FAC species	2	x3 6
FACU species		x4
UPL species	25	x5 125
Column Totals	34 (A)	145 (B)

Prevalence Index = B/A = 4.3

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: Majority of the sample point area is bare ground with no dominant wetland vegetation. Wetland vegetation criterion not met.

SOIL

Sampling Point P1

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
0-8	10YR 2/2	100					gravelly loam	saline soil, not absorbing water

[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: _____

Depth (inches): _____

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

Remarks: Could not dig below 8". Soil comprised of gravelly railroad bed material. No hydric soil indicators are present. Hydric soil criterion not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

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

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

Remarks: No hydrology indicators observed. Hydrology criterion not met.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Salt Production Facility City: Redwood City County: San Mateo Sampling Date: 10/8/2009

Applicant/Owner: DMB Saltworks, LLC State: CA Sampling Point: **P2**

Investigator(s): Justin Semion, Amy Langston, Mike Josselyn Section,Township,Range: 15, T5S, R3W

Landform (hillslope, terrace, etc.): Levee Local Relief (concave, convex, none): none Slope(%): <1

Subregion(LRR): LRR C (Medit. CA) Lat: 37 deg 30' 29.08" N Long: 122 deg 11' 58.15" W Datum: WGS 84

Soil Map Unit Name: Novato Clay, 0 to 1 percent slopes, ponded 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: None of the wetland criteria met; sample point is not within a wetland. Sample point located in a vegetated area adjacent to the levee road.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** _____	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			

SAPLING/SHRUB STRATUM **Plot Size:** _____			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			

HERB STRATUM **Plot Size:** _____			
1. *Bromus diandrus*	70	Y	NL
2. *Carduus pycnocephalus*	15		NL
3. *Grindelia stricta var. angustifolia*	10		FACU
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	95		

WOODY VINE STRATUM **Plot Size:** _____			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum: 5 % cover of biotic crust: _____

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	0	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	0	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species	10	x4	40
UPL species	85	x5	425
Column Totals	95 (A)		465 (B)

Prevalence Index = B/A = 4.9

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: Vegetation is predominantly upland non-native species. Wetland vegetation criterion not met.

SOIL

Sampling Point P2

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
0-12	10YR 2/2	96	10YR 2/1	2	C	M	gravelly clay loam	
			10YR 4/4	2	C	M		

[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: _____

Depth (inches): _____

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

Remarks: Soil comprised of spoil material used to build road beds. Soil profile does not meet any of the hydric soil indicators. Insufficient abundance of redoximorphic features to meet indicator F6. Hydric soil criterion not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

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

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

Remarks: No hydrology indicators observed. Hydrology criterion not met.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Salt Production Facility City: Redwood City County: San Mateo Sampling Date: 10/8/2009

Applicant/Owner: DMB Saltworks, LLC State: CA Sampling Point: **P3**

Investigator(s): Justin Semion, Amy Langston, Mike Josselyn Section,Township,Range: 15, T5S, R3W

Landform (hillslope, terrace, etc.): Levee Local Relief (concave, convex, none): none Slope(%): <1

Subregion(LRR): LRR C (Medit. CA) Lat: 37 deg 30' 33.04" N Long: 122 deg 11' 43.87" W Datum: WGS 84

Soil Map Unit Name: Novato Clay, 0 to 1 percent slopes, ponded 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: Sample point is on a levee road comprised of imported soil material. Sample point is not within a wetland.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** _____	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			

SAPLING/SHRUB STRATUM **Plot Size:** _____			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			

HERB STRATUM **Plot Size:** _____			
1. *Salsola tragus*	10	Y	FACU
2. *Distichlis spicata*	5	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	15		

WOODY VINE STRATUM **Plot Size:** _____			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum: 85 % cover of biotic crust: _____

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	1	(A)
Total number of dominant species across all strata?	2	(B)
% of dominant species that are OBL, FACW, or FAC?	50	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species		x1
FACW species	5	x2 10
FAC species		x3
FACU species	10	x4 40
UPL species		x5
Column Totals	15 (A)	50 (B)

Prevalence Index = B/A = 3.3

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: Majority of the sample point area is bare ground with no dominant wetland vegetation. Wetland vegetation criterion not met.

SOIL

Sampling Point P3

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	5Y 4/1	100	7.5YR 3/3	2	C	M	gravelly loam	
6-12	5Y/3/1	75					gravelly loam	
	7.5YR 3/3	15						
	5YR 5/4	10						

[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: _____

Depth (inches): _____

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

Remarks: Soil comprised of freshly graded road bed material comprised of dredge material. Soil indicators not representative of current conditions, but are relict features as defined in the Arid West Manual (page 97-98) due to use of dredged materials from the Bay for creation of levees. They do not represent current conditions and do not meet the definition of a hydric soil. Hydric soil is not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

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

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

Remarks: No hydrology indicators observed. Hydrology criterion not met.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Salt Production Facility City: Redwood City County: San Mateo Sampling Date: 10/8/2009

Applicant/Owner: DMB Saltworks, LLC State: CA Sampling Point: **P4**

Investigator(s): Justin Semion, Amy Langston, Mike Josselyn Section,Township,Range: 15, T5S, R3W

Landform (hillslope, terrace, etc.): Levee Local Relief (concave, convex, none): none Slope(%): <1

Subregion(LRR): LRR C (Medit. CA) Lat: 37 deg 30' 03.54" N Long: 122 deg 11' 49.55" W Datum: WGS 84

Soil Map Unit Name: Novato Clay, 0 to 1 percent slopes, ponded 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: None of the three wetland criteria met; sample point is not within a wetland.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** _____	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			

SAPLING/SHRUB STRATUM **Plot Size:** _____			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			

HERB STRATUM **Plot Size:** _____			
1. *Salsola tragus*	10	Y	FACU
2. *Carduus pycnocephalus*	5		NL
3. *Lolium multiflorum*	20	Y	FAC
4. *Grindelia stricta var. angustifolia*	10	Y	FACU
5. *Brassica nigra*	10	Y	NL
6.			
7.			
8.			
Herb Stratum Total Cover:	55		

WOODY VINE STRATUM **Plot Size:** _____			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum: 50 % cover of biotic crust: _____

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	1	(A)
Total number of dominant species across all strata?	4	(B)
% of dominant species that are OBL, FACW, or FAC?	25	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species	20	x3	60
FACU species	20	x4	80
UPL species	15	x5	75
Column Totals	55 (A)		215 (B)

Prevalence Index = B/A = 3.9

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: Wetland vegetation criterion not met.

SOIL

Sampling Point P4

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
0-12	2.5Y 4/2	60					rocky clay loam	
	5Y 3/1	20						
	10YR 4/6	15						
	10YR 2/1	5						

[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: _____

Depth (inches): _____

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

Remarks: Rocky soil with mixed matrix comprised of material from nearby soil material repository. Hydric soil criterion not met. No indications are present showing that soils meet the definition of a hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

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

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

Remarks: No hydrology indicators observed. Hydrology criterion not met.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Salt Production Facility City: Redwood City County: San Mateo Sampling Date: 10/8/2009

Applicant/Owner: DMB Saltworks, LLC State: CA Sampling Point: **P5**

Investigator(s): Justin Semion, Amy Langston, Mike Josselyn Section,Township,Range: 15, T5S, R3W

Landform (hillslope, terrace, etc.): Levee Local Relief (concave, convex, none): none Slope(%): <1

Subregion(LRR): LRR C (Medit. CA) Lat: 37 deg 30' 14.34" N Long: 122 deg 11' 35.85" W Datum: WGS 84

Soil Map Unit Name: Novato Clay, 0 to 1 percent slopes, ponded 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: Sample point on levee in vegetated area adjacent to bittern facility. None of the wetland criteria met; sample point is not within a wetland.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** _____	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			

SAPLING/SHRUB STRATUM **Plot Size:** _____			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			

HERB STRATUM **Plot Size:** _____			
1. *Mesembryanthemum crystallinum*	40	Y	NL
2. *Hordeum murinum*	20	Y	NL
3. *Dittrichia graveolens*	2		NL
4. *Carduus pycnocephalus*	5		NL
5. *Bromus hordeaceus*	20	Y	FACU
6. *Vulpia myuros*	5		FACU
7.			
8.			
Herb Stratum Total Cover:	92		

WOODY VINE STRATUM **Plot Size:** _____			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum: 10 % cover of biotic crust: _____

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	0	(A)
Total number of dominant species across all strata?	3	(B)
% of dominant species that are OBL, FACW, or FAC?	0	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species	25	x4	100
UPL species	67	x5	335
Column Totals	92 (A)		435 (B)

Prevalence Index = B/A = 4.7

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: Vegetation is comprised of upland non-native species. Wetland vegetation criterion not met.

SOIL

Sampling Point P5

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
0-10	10YR 2/2	100					rocky clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 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: _____

Depth (inches): _____

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

Remarks: Soil profile does not meet any of the hydric soil indicators. Hydric soil criterion not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

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

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

Remarks: No hydrology indicators observed. Hydrology criterion not met.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Salt Production Facility City: Redwood City County: San Mateo Sampling Date: 10/8/2009

Applicant/Owner: DMB Saltworks, LLC State: CA Sampling Point: **P6**

Investigator(s): Justin Semion, Amy Langston, Mike Josselyn Section,Township,Range: 15, T5S, R3W

Landform (hillslope, terrace, etc.): Levee Local Relief (concave, convex, none): none Slope(%): <1

Subregion(LRR): LRR C (Medit. CA) Lat: 37 deg 29' 51.11" N Long: 122 deg 11' 24.78" W Datum: WGS 84

Soil Map Unit Name: Novato Clay, 0 to 1 percent slopes, ponded 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: Sample point on levee adjacent to pickle facility. Imported soil material is not reflective of current soil conditions. Sample point is not within a wetland.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** _____	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			

SAPLING/SHRUB STRATUM **Plot Size:** _____			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			

HERB STRATUM **Plot Size:** _____			
1. *Mesembryanthemum crystallinum*	2	Y	NL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	2		

WOODY VINE STRATUM **Plot Size:** _____			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum: 95 % cover of biotic crust: _____

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	0	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	0	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species		x1
FACW species		x2
FAC species		x3
FACU species		x4
UPL species	2	x5 10
Column Totals	2 (A)	10 (B)

Prevalence Index = B/A = 5.0

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: Majority of the sample point area is bare ground. Wetland vegetation criterion not met.

SOIL

Sampling Point P6

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
0-12	2.5Y 4/1	85	5YR 4/4	15	C	M	silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 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: _____

Depth (inches): _____

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

Remarks: Soil indicator (hydric soil indicator F3) is not representative of current conditions, but is a relict feature as defined in the Arid West Manual (page 97-98) due to use of dredged materials from the Bay for creation of levees. Soil indicator does not represent current conditions and soils do not meet the definition of a hydric soil. Therefore, hydric soils are not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

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

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

Remarks: No hydrology indicators observed. Hydrology criterion not met.

Wetland Determination Data Form - Arid West Region

Project/Site Saltworks Salt Production Facility City Redwood City County San Mateo Sampling Date 10/8/2009

Applicant/Owner DMB Saltworks, LLC State CA Sampling Point **P7**

Investigator(s) Justin Semion, Amy Langston, Mike Josselyn Section,Township,Range 15, T5S, R3W

Landform (hillslope, terrace, etc.) Levee Local Relief (concave, convex, none) none Slope(%) <1

Subregion(LRR) LRR C (Medit. CA) Lat: 37 deg 30' 03.04" N Long: 122 deg 10' 43.40" W Datum: WGS 84

Soil Map Unit Name Novato Clay, 0 to 1 percent slopes, ponded 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: Sample point on levee adjacent to bittern facility. Imported soil material is not reflective of current soil conditions. Sample point is not within a wetland.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:**	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			

SAPLING/SHRUB STRATUM **Plot Size:**			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			

HERB STRATUM **Plot Size:**			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:			

WOODY VINE STRATUM **Plot Size:**			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum 100 % cover of biotic crust

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	0	(A)
Total number of dominant species across all strata?	0	(B)
% of dominant species that are OBL, FACW, or FAC?	0	(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: No vegetation present in sample point area.

SOIL

Sampling Point P7

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[1]	Texture	Remarks
0-12	2.5Y 5/1	75	2.5Y 5/3	20			silty loam	mixed matrix
			5Y 5/4	5				

[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: _____

Depth (inches): _____

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

Remarks: Soil indicator (hydric soil indicator F3) is not representative of current conditions, but is a relict feature as defined in the Arid West Manual (page 97-98) due to use of dredged materials from the Bay for creation of levees. Soil indicator does not represent current conditions and soils do not meet the definition of a hydric soil. Therefore, hydric soils are not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

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

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

Remarks: No hydrology indicators observed. Hydrology criterion not met.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Salt Production Facility City: Redwood City County: San Mateo Sampling Date: 10/8/2009

Applicant/Owner: DMB Saltworks, LLC State: CA Sampling Point: **P8**

Investigator(s): Justin Semion, Amy Langston, Mike Josselyn Section,Township,Range: 15, T5S, R3W

Landform (hillslope, terrace, etc.): Levee Local Relief (concave, convex, none): none Slope(%): <1

Subregion(LRR): LRR C (Medit. CA) Lat: 37 deg 29' 20.96" N Long: 122 deg 10' 46.44" W Datum: WGS 84

Soil Map Unit Name: Novato Clay, 0 to 1 percent slopes, ponded 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: None of the wetland criteria met; sample point is not within a wetland.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** _____	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			

SAPLING/SHRUB STRATUM **Plot Size:** _____			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			

HERB STRATUM **Plot Size:** _____			
1. *Mesembryanthemum crystallinum*	30	Y	NL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	30		

WOODY VINE STRATUM **Plot Size:** _____			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum: 70 % cover of biotic crust: _____

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	0	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	0	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species		x1
FACW species		x2
FAC species		x3
FACU species		x4
UPL species	30	x5 150
Column Totals	30 (A)	150 (B)

Prevalence Index = B/A = 5.0

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: Majority of the sample point area is bare ground. Vegetation is a non-native upland species. Wetland vegetation criterion not met.

SOIL

Sampling Point P8

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
0-12	10YR 2/2	100	7.5YR 4/6	3	C	M	silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 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: _____

Depth (inches): _____

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

Remarks: Soil profile does not meet any of the hydric soil indicators. Insufficient abundance of redoximorphic features to meet indicator F6. There are no indicators that the area supports hydrology that would cause soils to meet the definition of a hydric soil. Hydric soil is not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

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

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

Remarks: Cracked soil surface present due to very high soil salinity, and is not a hydrology feature. Hydrology criterion not met.

Wetland Determination Data Form - Arid West Region

Project/Site Saltworks Salt Production Facility City Redwood City County San Mateo Sampling Date 10/8/2009

Applicant/Owner DMB Saltworks, LLC State CA Sampling Point **P9**

Investigator(s) Justin Semion, Amy Langston, Mike Josselyn Section,Township,Range 15, T5S, R3W

Landform (hillslope, terrace, etc.) Levee Local Relief (concave, convex, none) none Slope(%) <1

Subregion(LRR) LRR C (Medit. CA) Lat: 37 deg 29' 27.72" N Long: 122 deg 11' 29.72" W Datum: WGS 84

Soil Map Unit Name Novato Clay, 0 to 1 percent slopes, ponded 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: None of the wetland criteria met; sample point is not within a wetland.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:**	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			

SAPLING/SHRUB STRATUM **Plot Size:**			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			

HERB STRATUM **Plot Size:**			
1. *Mesembryanthemum crystallinum*	20	Y	NL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	20		

WOODY VINE STRATUM **Plot Size:**			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum 80 % cover of biotic crust

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	0	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	0	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species		x1
FACW species		x2
FAC species		x3
FACU species		x4
UPL species	20	x5 100
Column Totals	20 (A)	100 (B)

Prevalence Index = B/A = 5.0

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: Wetland vegetation criterion not met.

SOIL

Sampling Point P9

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 3/2	100	10YR 3/3	3	C	M	clay loam	
6-12	2.5Y 4/1	85					clay loam	
	7.5YR 4/6	15						

[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: _____

Depth (inches): _____

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

Remarks: Soil profile does not meet any of the hydric soil indicators. Hydric soil criterion not met. Soil profile below 6 inches contained dry and decaying vegetation with a color of 7.5YR 4/6. This color does not represent a redoximorphic feature. Insufficient abundance of redoximorphic features to meet indicator F6. Hydric soil is not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

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

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

Remarks: No hydrology indicators observed. Hydrology criterion not met.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Salt Production Facility City: Redwood City County: San Mateo Sampling Date: 10/8/2009

Applicant/Owner: DMB Saltworks, LLC State: CA Sampling Point: **P10**

Investigator(s): Justin Semion, Amy Langston, Mike Josselyn Section,Township,Range: 15, T5S, R3W

Landform (hillslope, terrace, etc.): Partition Local Relief (concave, convex, none): convex Slope(%): 2

Subregion(LRR): LRR C (Medit. CA) Lat: 37 deg 29' 23.80" N Long: 122 deg 12' 12.56" W Datum: WGS 84

Soil Map Unit Name: Novato Clay, 0 to 1 percent slopes, ponded 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: Sample point is on a wooden partition in the south end of the crystallizer facilities. None of the wetland criteria met; sample point is not within a wetland.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** _____	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			

SAPLING/SHRUB STRATUM **Plot Size:** _____			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			

HERB STRATUM **Plot Size:** _____			
1. *Mesembryanthemum crystallinum*	15	Y	NL
2. *Distichlis spicata*	2		FACW
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	17		

WOODY VINE STRATUM **Plot Size:** _____			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum: 80 % cover of biotic crust: _____

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	0	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	0	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species		x1
FACW species	2	x2 4
FAC species		x3
FACU species		x4
UPL species	15	x5 75
Column Totals	17 (A)	79 (B)

Prevalence Index = B/A = 4.6

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: Majority of the sample point area is bare ground. Vegetation is predominantly an upland non-native species. Wetland vegetation criterion not met.

SOIL

Sampling Point P10

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
0-2	10YR 3/2	100					clay loam	
2-8	10YR 3/1	100	10YR 3/4	1	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 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: _____

Depth (inches): _____

Hydric Soil Present ? ☐ Yes ☒ No

Remarks: Could not dig below 8". Very sparse redox below 2 inches. Hydric soil criterion not met. There are no indicators that the area supports hydrology that would cause soils to meet the definition of a hydric soil. Hydric soil is not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

Wetland Hydrology Present ? ☐ Yes ☒ No

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

Remarks: Cracked soil surface present due to soil salinity-not a hydrology feature. Hydrology criterion not met.

Wetland Determination Data Form - Arid West Region

Project/Site: Saltworks Salt Production Facility City: Redwood City County: San Mateo Sampling Date: 10/8/2009

Applicant/Owner: DMB Saltworks, LLC State: CA Sampling Point: **P11**

Investigator(s): Justin Semion, Amy Langston, Mike Josselyn Section,Township,Range: 15, T5S, R3W

Landform (hillslope, terrace, etc.): Terrace Local Relief (concave, convex, none): none Slope(%): <1

Subregion(LRR): LRR C (Medit. CA) Lat: 37 deg 30' 02.05" N Long: 122 deg 12' 35.13" W Datum: WGS 84

Soil Map Unit Name: Novato Clay, 0 to 1 percent slopes, ponded 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: Sample point is adjacent to facility headquarters located on an upland parking and equipment storage area.

VEGETATION (use scientific names)

TREE STRATUM **Plot Size:** _____	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:			

SAPLING/SHRUB STRATUM **Plot Size:** _____			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:			

HERB STRATUM **Plot Size:** _____			
1. *Bassia hyssopifolia*	20	Y	FAC
2. *Hordeum murinum*	10	Y	NL
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	30		

WOODY VINE STRATUM **Plot Size:** _____			
1.			
2.			
Woody Vines Total Cover:			

% Bare ground in herb stratum: 70 % cover of biotic crust: _____

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	1	(A)
Total number of dominant species across all strata?	2	(B)
% of dominant species that are OBL, FACW, or FAC?	50	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species	20	x3	60
FACU species		x4	
UPL species	10	x5	50
Column Totals	30 (A)		110 (B)

Prevalence Index = B/A = 3.7

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: Wetland vegetation criteria not met.

SOIL

Sampling Point P11

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[1]	Texture	Remarks
0-8	2.5Y 4/1	90	7.5Y 3/4	10			gravelly loam	shells intermixed in matrix

[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)
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- ☐ 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: _____

Depth (inches): _____

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

Remarks: Soil indicator (hydric soil indicator F3) is not representative of current conditions, but is a relict feature as defined in the Arid West Manual (page 97-98) due to use of dredged materials from the Bay for creation of levees. Soil indicator does not represent current conditions and soils do not meet the definition of a hydric soil. Therefore, hydric soils are not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1)(Riverine)
- ☐ Sediment Deposits (B2)(Riverine)
- ☐ Drift Deposits (B3)(Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): _____

Water table present? ☐ Yes ☒ No Depth (inches): _____

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

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

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

Remarks: No hydrology indicators observed. Hydrology criterion not met.