APPENDIX A

Agency Correspondence

SCOPING LETTERS

The following agencies were sent a scoping letter that has been attached to Page A-3 of this Appendix. This scoping letter identified the Proposed Action[/a/] and requested information from each agency that would assist in the preparation of the Draft Environmental Assessment (EA). None of the agencies responded to the scoping letter. However, the EA consultant generated a U.S. Fish and Wildlife Service official list of federally listed threatened or endangered species that may occur in the project area on December 6, 2013, and that list is included in this appendix.

- **California Fish and Wildlife Service**
  7329 Silverado Trail
  Napa, CA 94558

- **State of California Clearinghouse**
  State Clearinghouse
  P.O. Box 3044
  Sacramento, CA 95812-3044

- **California Department of Conservation**
  801 K Street, MS 24-01
  Sacramento, CA 95814

- **San Francisco Bay Conservation and Development Commission**
  50 California Street, Suite 2600
  San Francisco, California 94111

- **United States Army Corps of Engineers**
  1455 Market Street
  San Francisco, CA 94103

- **United States Environmental Protection Agency**
  75 Hawthorne Street
  San Francisco, CA, 94105

- **Sacramento United States Fish and Wildlife Service**
  2800 Cottage Way, Room W-2605
  Sacramento, CA 95825

[/a/]: The Taxiway Zulu project component originally included in the scoping letters has been dropped from the Proposed Action.

RS&H
IMPROVING YOUR WORLD

369 Pine Street, Suite 610
San Francisco, California 94104
415.986.1702

Sacramento United States Fish and Wildlife Office
2800 Cottage Way,
Room W-2605,
Sacramento, CA 95825
April 16, 2013

Dear Susan K. Moore,

An Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and an Initial Study (IS) in compliance with the California Environmental Quality Act (CEQA) are being prepared to assess the potential for environmental effects associated with the implementation of a Proposed Action at Hayward Executive Airport (Airport). The Proposed Project involves the relocation of Taxiway Z, the placement of a portion of Sulphur Creek within the Airport Operations Area (AOA) into a culvert, and the grading of infield areas (see **Attachment A-1** for the Airport location and **Attachment A-2** for the Proposed Action. The Federal Aviation Administration (FAA) is the lead agency for NEPA and the City of Hayward is the lead agency for CEQA.

The EA and IS will discuss the potential for environmental effects that could occur as a result of the Proposed Action. The purpose of this initial coordination letter is to seek input from State and Federal agencies concerning the potential for environmental effects associated with the Proposed Action. If your agency has any information relating to potential environmental effects, please provide this information to Nick Kozlik within 30 days at the address above. **Attachment B** lists the environmental resource categories being analyzed as part of the EA. **Attachment C** contains the environmental resource categories contained within Appendix G of CEQA guidelines that will be analyzed as part of the IS.

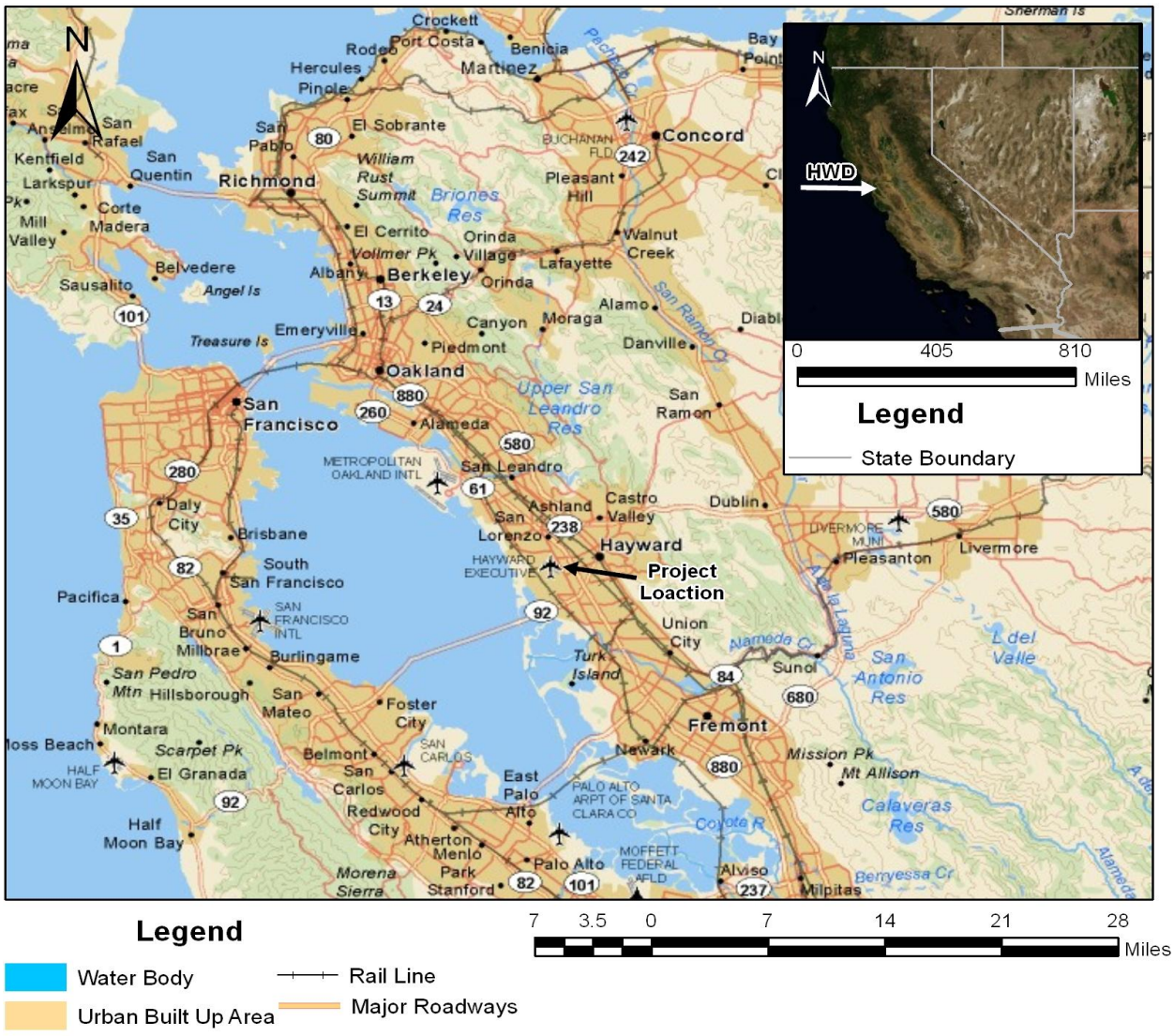
Thank you in advance for your assistance with the preparation of this EA and IS. Please feel free to contact me by e-mail (Nick.Kozlik@rsandh.com), or phone (415-986-1702) if you have any questions or comments regarding the EA or IS.

Sincerely,
Nicholas Kozlik

REYNOLDS SMITH & HILLS, INC

Attachments: A-1 Airport Location,
A-2 Proposed Action
B: Environmental Assessment Categories
C: CEQA Appendix G Initial Study Categories

Attachment A-1
Airport Location



SOURCE: ESRI, 2012; RS&H, 2012.

Attachment A-2
Proposed Action

Source: ESRI, 2013; RS&H, 2013 Prepared By: RS&H, 2013

Legend

- Area of Potential Ground Disturbance
- Airport Property
- Existing Sulphur Creek Culvert
- Proposed Taxiway Z Pavement
- Proposed Taxiway Z Removal
- Grading Areas
- Area to be Culverted and Graded
- Sulphur Creek

Source: ESRI, RS&H, 2013.

Hayward Executive Airport
Environmental Assessment

Attachment B
Environmental Assessment Categories

The following environmental resource categories will be included in the Environmental Assessment:

- air quality;
- biotic resources;
- coastal barriers;
- coastal zone management;
- compatible land use;
- construction impacts;
- section 4(f) resources;
- endangered species;
- energy supply;
- environmental justice;
- farmlands;
- floodplains;
- hazardous materials;
- historic;
- induced socioeconomic impacts;
- light emissions and visual impacts;
- noise;
- social impacts;
- solid waste;
- water quality;
- wetlands;
- wild and scenic; and
- cumulative impacts.

Hayward Executive Airport
Initial Study

Attachment C
Initial Study Categories

The following environmental resource categories will be included in the Initial Study:

- aesthetics
- agricultural resources
- air quality
- biological resources
- cultural resources
- geology and soils
- hazards and hazardous materials
- hydrology and water quality
- land use and planning
- mineral resources
- noise
- population and housing
- public services
- recreation
- transportation and traffic
- utilities and service systems; and
- mandatory findings of significance

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

December 6, 2013

Document Number: 131206022324

Nicholas Kozlik
Reynolds Smith and Hills
369 Pine Street Suite 610
San Francisco, CA 94104

Subject: Species List for Sulphur Creek Culvert Project

Dear: Mr. Kozlik

We are sending this official species list in response to your December 6, 2013 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be March 06, 2014.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found here.

Endangered Species Division

TAKE PRIDE IN AMERICA

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 131206022324

Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Eucyclogobius newberryi
tidewater goby (E)

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus kisutch
coho salmon - central CA coast (E) (NMFS)

Oncorhynchus mykiss
Central California Coastal steelhead (T) (NMFS)
Central Valley steelhead (T) (NMFS)
Critical habitat, Central California coastal steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Reptiles

Masticophis lateralis euryxanthus
Alameda whipsnake [=striped racer] (T)
Critical habitat, Alameda whipsnake (X)

Birds

Charadrius alexandrinus nivosus
western snowy plover (T)

Pelecanus occidentalis californicus
California brown pelican (E)

Rallus longirostris obsoletus
California clapper rail (E)

Sternula antillarum (=Sterna, =albifrons) browni
California least tern (E)

tidewater goby (E)

Hypomesus transpacificus
Critical habitat, delta smelt (X)
delta smelt (T)

Oncorhynchus kisutch
coho salmon - central CA coast (E) (NMFS)

Oncorhynchus mykiss
Central California Coastal steelhead (T) (NMFS)
Central Valley steelhead (T) (NMFS)
Critical habitat, Central California coastal steelhead (X) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
Critical habitat, winter-run chinook salmon (X) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)
Critical habitat, CA tiger salamander, central population (X)

Rana draytonii
California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Reptiles

Masticophis lateralis euryxanthus
Alameda whipsnake [=striped racer] (T)
Critical habitat, Alameda whipsnake (X)

Thamnophis gigas
giant garter snake (T)

Thamnophis sirtalis tetrataenia
San Francisco garter snake (E)

Birds

Charadrius alexandrinus nivosus
western snowy plover (T)

Pelecanus occidentalis californicus
California brown pelican (E)

Rallus longirostris obsoletus
California clapper rail (E)

Sternula antillarum (=Sterna, =albifrons) browni
California least tern (E)

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The

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APPENDIX B

Construction Emission Inventory

A construction emission inventory for the Proposed Action was prepared using available information in order to estimate construction-related emissions. The construction emission inventory involved calculating estimated hourly usage of construction equipment, applying these hourly usages to 100% load factors and corresponding emission factors unique to each piece of equipment, and calculating emissions resulting from equipment delivery and worker commutes.

The vehicle mix, trip distances, and assumed travel speeds for material delivery, dump truck usage, and worker commute vehicles were input into the Emission Dispersion Modeling System (EDMS), which is the FAA preferred model for air quality analyses. To estimate emissions associated with on-road motor vehicles including haul trucks, deliveries, and vehicles used by construction workers, the following assumptions were applied:

- construction worker vehicle miles traveled (VMT) were calculated assuming 40 miles per work day (round trip);
- 1.25 employees per vehicle over the duration of the construction schedule;
- haul truck and workers assume an average vehicle speed of 40 miles per hour; and
- work schedule of four months and an average of 8 workers working concurrently over the duration of the construction schedule.

Greenhouse Gas Emissions (GHGs) were calculated by quantifying gallons of fuel consumed by construction equipment and standard EPA emission factors for GHG inventories were applied to the anticipated fuel consumption.[1]

Results, calculations, assumptions, and emission factors used in these calculations can be found within the following pages of **Appendix B**. Since construction would occur over four to six months it is assumed that temporary criteria pollutant emissions resulting from construction of the Proposed Action would occur in one construction year and would not be considered significant.

[1] Environmental Protection Agency (2013). Emission Factors for Greenhouse Gas Inventories. Accessed: May 2014. Available at: http://www.epa.gov/climateleadership/documents/emission-factors.pdf

CONSTRUCTION EMISSION INVENTORY														
Equipment Type	**Hours of Use**	**CO Emission Rate lb/hr**	**CARBON MONOXIDE (CO) lbs**	**HC Emission Rate lb/hr**	**HYDROCARBONS lbs**	**NO2 Emission Rate lb/hr**	**NITROGEN OXIDES (NOX) lbs**	**SO2 Emission Rate lbs/hr**	**SULFUR OXIDES (SO2) lbs**	**PART Emission Rate lbs/hr**	**PM 10 lbs**	**PART Emission Rate lbs/hr**	**PM 2.5 lbs**	**Fuel Consumption (Gallons per Hour)**	**Fuel Consumption Total**
Asphalt Paver		0.3981	0	0.07589	0	1.28138	0	0.1157	0	0.055985	0	0.055985	0		0
Concrete Paver		0.81219	0	0.19905	0	1.78078	0	0.16528	0	0.079975	0	0.079975	0		0
Roller		0.37896	0	0.10024	0	1.13688	0	0.12225	0	0.047675	0	0.047675	0		0
Scraper		2.46872	0	0.35056	0	4.29557	0	0.44437	0	0.31106	0	0.31106	0		0
Paving Equipment		0.5322	0	0.13074	0	1.27382	0	0.10413	0	0.052065	0	0.052065	0		0
Trencher		0.90692	0	0.15578	0	0.99423	0	0.09228	0	0.07144	0	0.07144	0		0
Excavator	16	1.19602	19.13632	0.161	2.576	2.47254	39.56064	0.2139	3.4224	0.165605	2.64968	0.165605	2.64968	6	96
Cement Mixer		0.06248	0	0.01399	0	0.14955	0	0.01263	0	0.00611	0	0.00611	0		0
Graders	140	0.87912	123.0768	0.36322	50.8508	2.22095	310.933	0.20127	28.1778	0.115675	16.1945	0.115675	16.1945	8	1120
Rubber Tired Loader		1.00019	0	0.1792	0	2.14624	0	0.1792	0	0.1344	0	0.1344	0		0
Rubber Tired Dozer		1.29679	0	0.3983	0	4.44613	0	0.43072	0	0.152835	0	0.152835	0		0
Tractor/Loader/Backhoe	108	0.635	68.58	0.13354	14.42232	0.94316	101.86128	0.07937	8.57196	0.049025	5.2947	0.049025	5.2947	6.5	702
Crawler Tractor	44	0.96378	42.40632	0.25902	11.39688	2.06811	90.99684	0.17067	7.50948	0.115455	5.08002	0.115455	5.08002	6.5	286
Sweeper	8	0.88138	7.05104	0.23271	1.86168	2.03619	16.28952	0.13526	1.08208	0.116355	0.93084	0.116355	0.93084	1.2	9.2
Off Highway Truck	123	1.72088	211.66824	0.51626	63.49998	5.90016	725.71968	0.54699	67.27977	0.24584	30.23832	0.24584	30.23832	0.7	79.95
Generator (gasoline)		12.974	0	0.474	0	0.018	0	0.005	0	0.001	0	0.001	0		0
Generator (diesel)		0.179	0	0.033	0	0.293	0	0.033	0	0.008	0	0.008	0		0
Manual Lift/Manlift (Boom and Scissor)		0.282	0	0.065	0	0.673	0	0.043	0	0.0165	0	0.0165	0		0
Forklift		0.52	0	0.17	0	1.54	0	0.143	0	0.0465	0	0.0465	0		0
Crane	12	0.751	9.012	0.25	3	1.919	23.028	0.167	2.004	0.0625	0.75	0.0625	0.75	10.0	120
Boom Truck		0.052	0	0.017	0	0.184	0	0.017	0	0.0065	0	0.0065	0		0
Refueling Truck		0.052	0	0.017	0	0.184	0	0.017	0	0.0065	0	0.0065	0		0
Air Compressor		0.195	0	0.036	0	0.32	0	0.036	0	0.009	0	0.009	0		0
300-Ton Capacity Truck Crane		2.24	0	0.688	0	5.504	0	0.4945	0	0.374	0	0.374	0		0
Weld Machine		0.173	0	0.032	0	0.284	0	0.032	0	0.008	0	0.008	0		0
Skidsteer (bobcat)		0.204	0	0.00735	0	0.287	0	0.00315	0	0.0125	0	0.0125	0		0
Concrete Mixer		0.062	0		0	0.148	0	0.012	0	0.003	0	0.003	0		0
Hand Held Vibrator Plate		7.018	0	3.086	0	0.002	0	0.002	0	0.0145	0	0.0145	0		0
Vertical Auger Drill		3.135	0	0.47	0	3.762	0	0.314	0	0.1175	0	0.1175	0		0
Chain Saw		0.15	0	0.029	0	0.208	0	0.037	0	0.0125	0	0.0125	0		0
Chipper		0.908	0	0.119	0	1.169	0	0.165	0	0.057	0	0.057	0		0
Tamping Spade		4.488	0	1.973	0	0.001	0	0.001	0	0.0095	0	0.0095	0		0
Concrete Pump/Truck		0.547	0	0.237	0	2.941	0	0.331	0	0.0505	0	0.0505	0		0
Water Truck (BMPs)	12	0.052	0.624	0.017	0.204	0.184	2.208	0.017	0.204	0.0065	0.078	0.0065	0.078	1.5	18
SUB-TOTAL EMISSIONS (LBS			481.55472		147.81166		1310.59696		118.25149		61.21606		61.21606		0
TOTAL EMISSIONS (TONS)			0.24077736		0.073906		0.65529848		0.0591257		0.03061		0.030608		2431.15

Emission factors are based on criteria pollutant emissions per hour (in pounds) for a given piece of equipment operating at 100% load factor.

Results are presented in tons.

Construction Worker Trips	
120 work days: employees (average)	8
employees per car	1.25
worker roundtrips per day	6.4
Trips during schedule	768
30 miles roundtrip	23,070

Equipment and Supply Delivery	
Equipment #	8 pieces
	40 mi/round trip
	320

1: Grams per vehicle mile

2: Results presented in tons

Worker Construction trips g/VM (light duty gasoline trucks) (tons)[1]

CO	VOC	Nox	SOx	PM10	PM2.5
8.6	0.39	0.42	0.0088	0.024	0.0112

Emission Results[2]

CO	VOC	NO_x	SO_2	PM_{10}	$PM_{2.5}$
0.219	0.01	0.011	0	0.001	0.001

g/VM class 7 Heavy Duty diesel trucks[1]

CO	VOC	Nox	SOx	PM10	PM2.5
0.13	0.2	0.38	0.009	0.035	0.018

Emission Results[2]

CO	VOC	NO_x	SO_2	PM_{10}	$PM_{2.5}$
0.02	0.03	0.06	0.001	0.006	0.003

Results are presented in tons.
Presented in Grams per Vehicle mile

Grand Total

CO	VOC	NO_x	SO_2	PM_{10}	$PM_{2.5}$
0.48	0.12	0.73	0.06	0.04	0.03

Annualized Emissions[/a/]

CO	VOC	NO_x	SO_2	PM_{10}	$PM_{2.5}$
-	-	-	-	-	-

/a/: Does not apply, construction schedule < or = 1 year.

Results are presented in tons.
Presented in Grams per Vehicle mile

GHG Calculation

	CO2/a/	CH4	N2O	CO2 Tons	CH4 Tons	N2O Tons
Worker Trips/b/	14,678,288	60,559	115	16.2	0.1	0.0001
Construction Equipment	24749107	102108	194	27.3	0.1	0.0002
Equipment Delivery/c/	407200	1680	3	0.4	0.002	0.000004
Totals	39,834,595	164,347	313	**43.91**	**0.18**	**0.0003**

/a/: 1 gal of diesel = 10,180 grams

Presented in Grams
Presented in Tons

EPA (2005). Average Carbon Dioxide Emissions Resulting from Gasoline and Diesel Fuel. Available at: https://www.chargepoint.com/files/420f05001.pdf

/b/ Assumed MPG: 16

/c/ Assumed MPG: 8

Diesel 1 Gal=			
CH4:	42 g/gal	N2O	.08 g/gal
Gasoline 1 Gal=			
CH4:	.38 g/gal	N2O	.08 g/gal

APPENDIX C
Wetland Delineation

SITE DESCRIPTION

The approximately 6.9-acre project site is located at the northwestern end of the Hayward Executive Airport, which is located west of Interstate 880 and accessed from Skywest Drive at the western end of West A Street, 2/3 mile west of its intersection with I-880. The project site is bounded by the airport to the southeast, industrial park to the southwest, Clubhouse Drive and the municipal Skywest Golf Course to the northwest, and airport hangers to the northeast (Alameda County Assessor's Parcel Numbers 432-134-1-5 and 432-124-1-4). The site is situated within an un-sectioned portion of Township 3 South, Range 2 West on the Hayward, California 7.5-minute USGS quadrangle, and is centered at 37.6614° North Latitude and 122.1265 West Longitude. Figures 1 and 2 (attached) depict the regional location and project site location, respectively.

The project site includes runways, taxiways, unpaved grass infields, and reaches of Sulphur Creek. There are no buildings on the site. Most of the site has been graded to drain through swales and culverts to Sulphur Creek. The southwestern edge of the site has an airport perimeter fence.

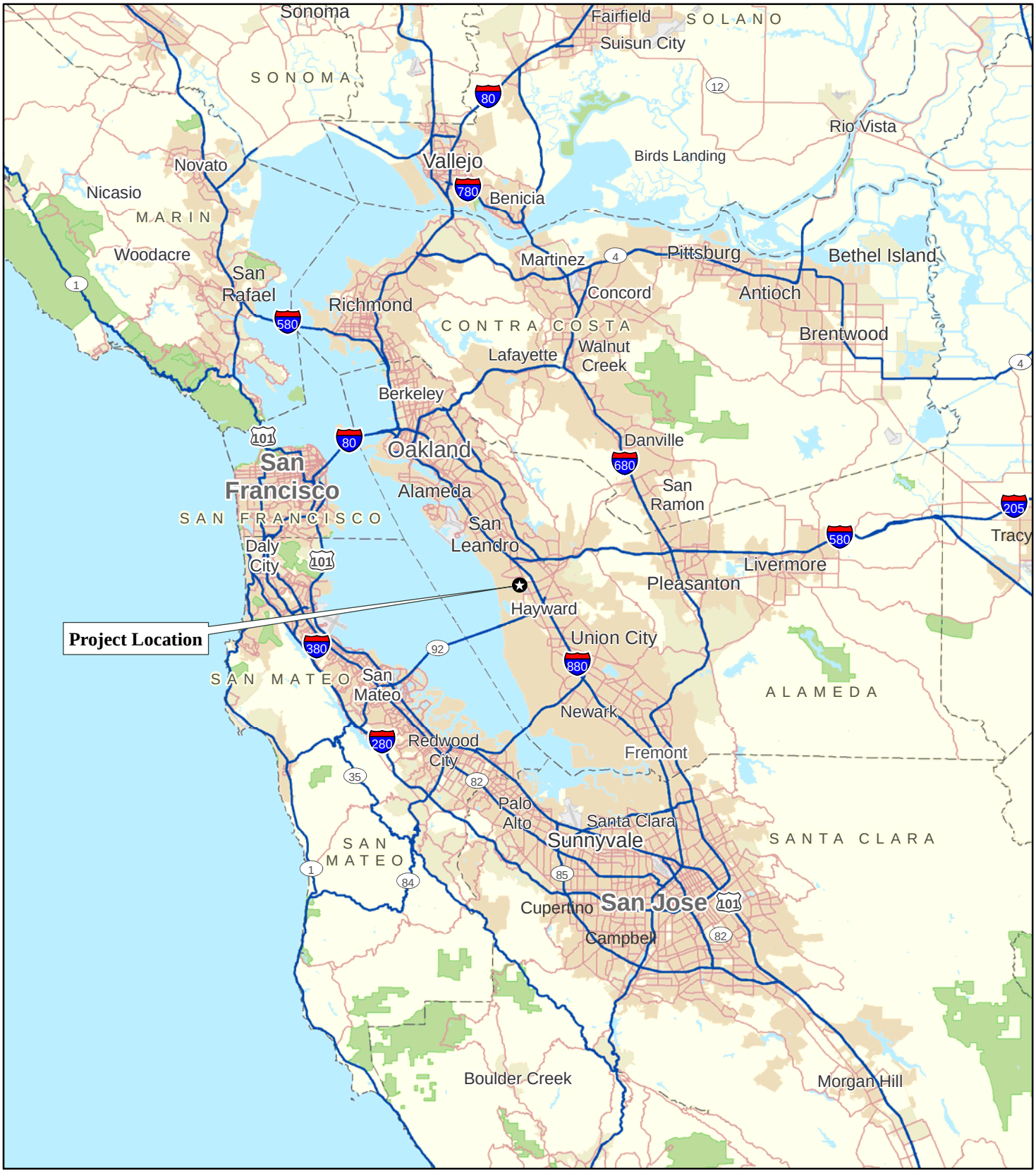
Vegetation on the site is dominated by ruderal grassland. The site has no trees; the only woody vegetation present is small coyote brush (*Baccharis pilularis*), a native ruderal shrub. Grass species observed consist of wild oats (*Avena* sp.), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), Italian ryegrass (*Festuca perennis*), and Mediterranean barley (*Hordeum marinum*). Forb species observed include bur medic (*Medicago polymorpha*), bird's foot trefoil (*Lotus corniculatus*), English plantain (*Planatago lanceolata*), prickly ox-tongue (*Helminthotheca echioides*), and suckling clover (*Trifolium dubium*).

The soil on the majority of the project site is mapped by the U.S. Department of Agriculture as Clear Lake clay, drained, 0 to 2 percent slopes (Map Unit Symbol 107); with the soil on a northern corner of the site mapped as Danville silty clay loam, 0 to 2 percent slopes (111). Clear Lake clay is listed as hydric in in areas where the water table is within one foot of the surface during the growing season or is seasonally ponded. The Danville silty clay loam is not listed as hydric except in inclusions of Clear Lake clay (Web Soil Survey, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx, accessed 11 March 2013). The clear Lake clay is described as poorly drained and with slow permeability. The Danville silty clay loam is described as well drained and with slow permeability (USDA Soil Survey of Alameda County, 1981).

The entire project site drains via constructed shallow ditches and culverts to Sulphur Creek, which bisects the site. Sulphur Creek is tributary to San Francisco Bay, a traditional navigable water of the United States, which is located approximately one mile west of the project site.

METHODS

The field investigations of potentially jurisdictional wetlands were conducted using the routine determination method provided in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the revised procedures in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (Arid West Supplement; U.S. Army Corps of Engineers 2008). This methodology entails examination of specific sample points within potential wetlands for hydrophytic vegetation, hydric soils, and wetland hydrology. By the federal definition, all three parameters must be present for an area to be considered a wetland.



LSA

FIGURE 1

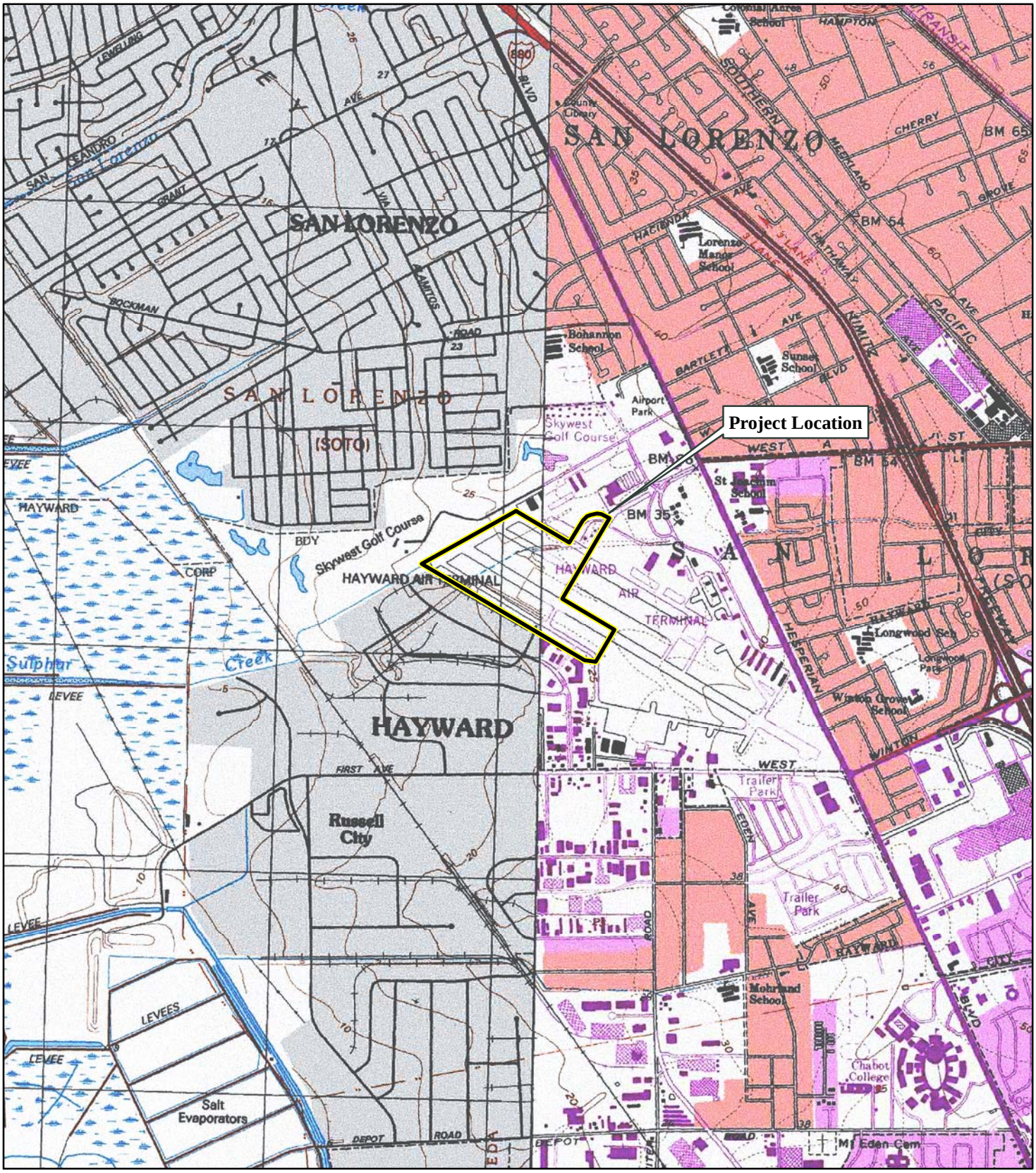
N

0 5 10
MILES

SOURCE: StreetMap North America (2009).

Hayward Executive Airport
Hayward, Alameda County, California
Regional Location

I:\RSQ1001\GIS\Maps\Delineation\Figure1_Regional Location.mxd (4/22/2013)



LSA

FIGURE 2

N

0 1000 2000
FEET

Hayward Executive Airport
Hayward, Alameda County, California
Project Location

SOURCE: USGS 7.5-Minute Topo Quads - *San Leandro, Calif.* (1980) and *Hayward, Calif.* (1980).

I:\RSQ1001\GIS\Maps\Delineation\Figure2_Site Location.mxd (4/24/2013)

Hydrophytic plant species are listed by the National Wetland Plant List (2012). The National List identifies five categories of plants according to their frequency of occurrence in wetlands. The categories are:

• Obligate wetland plants (OBL)	Plants that occur almost always in wetlands
• Facultative wetland plants (FACW)	Plants that usually occur in wetlands
• Facultative plants (FAC)	Plants that are equally likely to occur in wetlands or non-wetlands
• Facultative upland plants (FACU)	Plants that usually occur in uplands
• Obligate upland plants (UPL)	Plants that occur almost always in non-wetlands

An area is generally considered to have hydrophytic vegetation when more than 50 percent of the dominant species in each stratum (tree, shrub, and herb) are in the obligate wetland, facultative wetland, or facultative categories.

Hydric soils are defined by criteria set forth by the National Technical Committee for Hydric Soils (NTCHS). These criteria are given in the Wetland Delineation Manual Supplement and are based on depth and duration of soil saturation. Hydric soils are commonly identified in the field by using indirect indicators of saturated soil, technically known as redoximorphic features. These features are caused by anaerobic, reduced soil conditions that are brought about by prolonged soil saturation. The most common redoximorphic features are distinguished by soil color, which is strongly influenced by the frequency and duration of soil saturation. Hydric soils tend to have dark (low chroma) colors that are often accompanied by reddish mottles (iron mottles), reddish stains on root channels (oxidized rhizospheres), or gray colors (gleying). The Arid West Supplement contains descriptions of numerous federally-recognized hydric soil indicators.

Under natural conditions, development of hydrophytic vegetation and hydric soils are dependent on a third characteristic, wetland hydrology. This criterion is met if the area experiences inundation or soil saturation to the surface for a period equal to at least five (5) percent of the growing season (about 14 days in the region of the project site) in a year of median rainfall. In most cases, this criterion can only be measured directly by monitoring the site through an entire wet season. In practice, the hydrological status of a particular area is usually evaluated using indirect indicators. Some of the indicators that are commonly used to identify wetland hydrology include biotic crusts and oxidized rhizospheres around roots. The Arid West Supplement gives thorough descriptions of numerous federally-recognized indicators of wetland hydrology.

FIELD METHODS

LSA soil scientist Chip Bouril investigated the site on March 15, 2013. The last significant rainfall of approximately ½ inch occurred on February 19.

Wetland boundaries and sample point locations were mapped using a global position system (GPS) receiver with sub-meter accuracy. Wetland boundaries were determined by following a combination of the limits of hydrophytic vegetation, the limits of observed wetland hydrology, topographic breaks, and interpretation of aerial photography.

LSA established 5 sample points on the project site. Their locations are shown on Figure 3.

OBSERVATIONS

Potential jurisdictional features as identified by LSA are mapped on Figure 3.

Sulphur Creek

Approximately 3,150 linear feet of a perennial stream, called Sulphur Creek, flows westward through the study site. Roughly half of this length is conveyed underground beneath runways and taxiways within six sets of culverts. The second most downstream surface reach of the creek flows within a trapezoidal concrete channel. The remaining surface reaches of Sulphur Creek have been channelized into relatively straight, mostly trapezoidal, earthen channels. Although this reach of Sulphur Creek is located less than a mile from San Francisco Bay, the concrete-lined channel near the downstream study site boundary holds the study site reaches of the creek above the elevation of tidal influence.

Some of the creek bed and most of its lower banks are vegetated with freshwater marsh plant species, predominantly cattails (*Typha* spp.) and bulrushes (*Schoenoplectus* spp.). In the upstream surface reach of the creek, a low flood plain within the trapezoidal channel banks also supports similar wetland plant species. The creek's upper banks are vegetated with ruderal non-wetland grasses and forbs, similar to those in the unpaved infields between the runway and taxiways.

Most of the earthen channel reaches of Sulphur Creek have a well-defined low flow channel with a relatively flat bed and steep cut banks. At some locations, debris wrack deposits outside this channel show that the creek does typically flow outside this channel after significant rainfall events. In some locations, the low flow cut bank is interpreted as the Ordinary High Water Mark elevation, while in other areas, the Ordinary High Water Mark elevation appears to extend outside the low flow channel onto adjacent lower banks. At these locations, the wetland vegetation also extends beyond the low flow channel. As Ordinary High Water Mark is defined as including adjacent wetland vegetation, the Ordinary High Water Mark is mapped as extending to the limit of wrack and wetland vegetation in these reaches.

The Ordinary High Water Mark width of the Sulphur Creek surface channel varies between 8 and 30 feet. The total potential jurisdictional length of the surface channel reaches of Sulphur Creek is 1,710 feet and the total potential jurisdictional area is 0.73 acre.

The total widths of the Sulphur Creek culverts range between 16 and 18 feet. Some reaches of Sulphur Creek are culverted in two approximately 8-foot wide box culverts, while other reaches are culverted in four 4-foot diameter pipes. The total potential jurisdictional length of the culverted reaches of Sulphur Creek is 1,440 feet and the total potential jurisdictional area is 0.53 acre.

Sulphur Creek is delineated as an Other Water of the United States. The combined surface and culverted reaches of Sulphur Creek have a total potential jurisdictional length of 3,150 feet and total potential jurisdictional area of 1.26 acres.

Ditches and Basins

Constructed shallow drainage ditches and swales drain the unpaved airport infields to Sulphur Creek. These ditches extend mostly to the southeast of Sulphur Creek and include culverts underneath taxiways. LSA established 4 sample points to test for jurisdictional wetland indicators in these features. Although several locations within these drainage swales contain some wetland plant species and evidence of recent seasonal ponding, most locations do not meet jurisdictional wetland criteria. These swales do not have a bed and bank and do not show evidence of scour, so are not delineated as jurisdictional Other Waters of the United States. The one exception is an approximately 115-foot long reach of ditch between Taxiway A and Runway 10L, where Sample Point 1 was placed. The soil was saturated during the site investigation and vegetation included nut sedge (*Cyperus eragrostis*), a wetland plant not found at other ditch locations. In addition, this reach of ditch did show evidence of scour. Although both the potential jurisdictional wetland and Other Waters evidence for this reach are marginal, this reach of ditch is delineated as potentially jurisdictional based on this combination of characteristics. The potential jurisdictional area of the ditch is 0.010 acre.

Other Observations

Sample Point 3 was placed in a distinct basin within the unpaved infield. Despite its basin form, it did not show any convincing evidence of ponding or other jurisdictional wetland characteristics.

Several culverts empty into Sulphur Creek within the study site. These are presumed to be airport or municipal storm drains which are delineated as non-jurisdictional.

The remainder of the site is vegetated with upland plant species and did not have any wetland characteristics. No other evidence of potential waters of the United States was observed on the site.

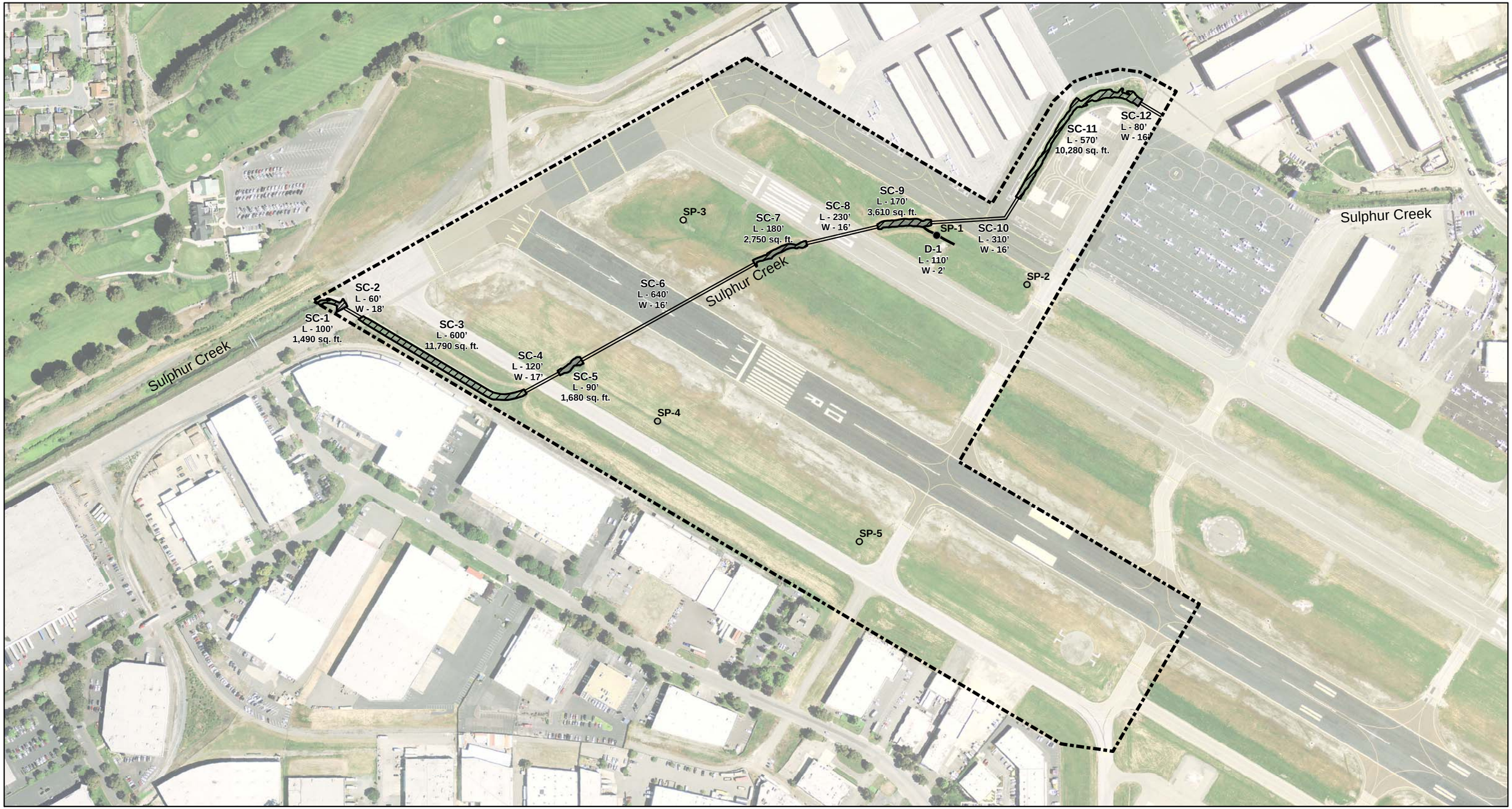
CONCLUSIONS

Potential Clean Water Act Section 404 jurisdictional features identified on the Hayward Executive Airport Project Site consists of Sulphur Creek, with a total potential jurisdictional length of 3,150 feet and an area of 1.26 acres, and a wetland drainage ditch with a potential jurisdictional length of 115 feet and an area of 0.010 acre.

Potential jurisdictional features, project site boundaries, and sample point locations are mapped on the attached Figure 3.

The findings and conclusions presented in this report, including the location and extent of other waters subject to Section 404 regulatory jurisdiction, represent the professional opinion of LSA. These findings and conclusions should be considered preliminary until verified by the Corps.

Please contact me or Ross A. Dobberteen, Ph.D., Principal-in-charge, at (510) 236-6810 to schedule a verification visit.



LSA

LEGEND

Area of Potential Ground Disturbance

Wetland Sample Point

Non-wetland Sample Point

POTENTIAL WATERS OF THE US

Open Stream Channel (0.725 acre)

Culverted Stream Channel (0.534 acre)

Wetland Ditch (0.005 acre)

1 INCH = 300 FEET

0 150 300

FEET

SOURCE: USGS Orthoimagery (04/2011).

I:\RSQ1001\GIS\Maps\Delineation\Figure3_Potential Waters of the US (11x17).mxd (4/24/2013)

FIGURE 3

Hayward Executive Airport
Hayward, Alameda County, California

Potential Waters of the US

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: HAYWARD EXEC. AIRPORT City/County: HAYWARD/ALAMEDA Sampling Date: 15MAR13

Applicant/Owner: _____ State: CA Sampling Point: 1

Investigator(s): C. Bouril Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0-8

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

Soil Map Unit Name: _____ NWI classification: _____

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

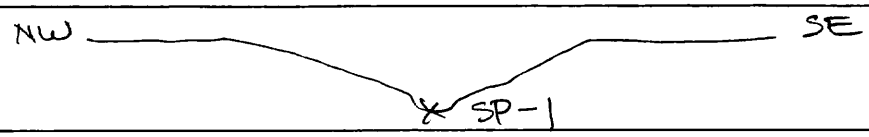
Are Vegetation _____ Soil _____ or Hydrology _____ Significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

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

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

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

Remarks:



VEGETATION

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover: _____			
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
Total Cover: _____			
Herb Stratum (Plot size: _____)			
1. CYPERUS ERAGROSTIS	20	X	FACW
2. FESTUCA PERENNIS	10	X	FAC
3. CYNODON DACTYLON	20	X	FACU
4.			
5.			
6.			
7.			
8.			
Total Cover: _____			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: _____			

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = =3.00

Hydrophytic Vegetation Indicators:

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR3/1		—				C/SiC	
7-12	10YR3/2		—					
	10YR4/1							

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

SOIL IS PRESUMED HYDRIC BECAUSE OF SATURATION AFTER A LONG PERIOD OF MINIMUM RAINFALL

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 (C5)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 3

Wetland Hydrology Present? Yes X No ___

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

Remarks:

NO RAIN SINCE 8 WEEK (7 DAYS). SATURATION IS UNLIKELY REPRESENTATIVE OF WETLAND HYDROLOGY. 0.3" IN PREVIOUS 23 DAYS.

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: HAYWARD EXEC. AIRPORT City/County: ________ Sampling Date: 15 MAR 13

Applicant/Owner: ________ State: CA Sampling Point: 2

Investigator(s): C. Bouril Section, Township, Range: ________

Landform (hillslope, terrace, etc.): ________ Local relief (concave, convex, none): ________ Slope (%): <5

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

Soil Map Unit Name: ________ NWI classification: ________

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

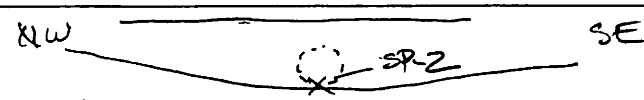
Are Vegetation ____ Soil ____ or Hydrology ____ Significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

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

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

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

Remarks:



EXCAVATED POOL @ CULVERT OUTLET PUDDLE IN DITCH

VEGETATION

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum (Plot size: ____)			
1. FESTUCA PERENNIS	8	X	FAC
2. LOTUS CORNICULATUS	10	X	FAC
3. PLANTAGO LANCEOLATA	5	X	FAC
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____.

Remarks:

WEAK HYDRO VEGETATION.

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1		—				C	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

THE WEAK HYDROPHYTIC VEGETATION & HYDROLOGY EVIDENCE SUPPORT A NON-HYDRIC DETERMINATION.

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)
- X Biotic Crust (B12) BLACK MAT
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C5)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

THE BLACK MAT MAY BE FROM EPHEMERAL PONDING.

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: HAYWARD EXEC. AIRPORT City/County: _____ Sampling Date: 15 MAR 13

Applicant/Owner: _____ State: CA Sampling Point: 3

Investigator(s): C. Bouril Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): < 5

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

Soil Map Unit Name: _____ NWI classification: _____

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

Are Vegetation _____ Soil _____ or Hydrology _____ Significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

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

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

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

Remarks:

SP3 DISTINCT BASIN IS INFILLED

VEGETATION

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum (Plot size: _____)			
1. HELMINTHOTHECA ECHIOIDES	40	X	FACU
2. LOTUS CORNICULATUS	60	X	FAC
3. FESTUCA PERENNIS	< 5		FAC
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = > 3

Hydrophytic Vegetation Indicators:

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-9	10YR3/2		—				L/CL	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12) NONE
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (CS)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: HOWARD TWP, AIRPORT City/County: _____ Sampling Date: 5/16/13

Applicant/Owner: _____ State: CA Sampling Point: 4

Investigator(s): C. Bouril Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): <4

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

Soil Map Unit Name: _____ NWI classification: _____

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

Are Vegetation _____ Soil _____ or Hydrology _____ Significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

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

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

Hydrophytic Vegetation Present? Yes X No _____

Hydric Soil Present? Yes _____ No X

Wetland Hydrology Present? Yes _____ No X

Is the Sampled Area within a Wetland? Yes _____ No X

Remarks: NE — X SP-4 — SW IN FLATTER REACH OF DITCH, MORE SUBJECT TO EPHEMERAL PONDING.

VEGETATION

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum (Plot size: _____)			
1. FESTUCA PERENNIS	80	X	FAC
2. HELMINTHOTHECA ECHIOIDES	5		FACU
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR2/1						CL	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C5)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ___ No X

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

Remarks: WATTLED GROSSES, NOT DARKENED = EPH. PONDING

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: HAYWARD EXEC. AIRPORT City/County: _____ Sampling Date: 15 MAR 13

Applicant/Owner: _____ State: CA Sampling Point: 5

Investigator(s): C. Bouril Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 0, < 4

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

Soil Map Unit Name: _____ NWI classification: _____

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

Are Vegetation _____ Soil _____ or Hydrology _____ Significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

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

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

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

Remarks:

SP-5

VEGETATION

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover: _____			
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
Total Cover: _____			
Herb Stratum (Plot size: _____)			
1. FESTUCA PERENNIS	30	X	FAC
2. GERANIUM DISSECTUM	20	X	UPL
3. HELMINTHOTHECA ECHIOIDES	20	X	FACU
4. PLANTAGO LANCEOLATA	5		FAC
5.			
6.			
7.			
8.			
Total Cover: _____			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover: _____			

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = > 3

Hydrophytic Vegetation Indicators:

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-10	10YR2/1		—				CL	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- X Biotic Crust (B12) Blue weight
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C5)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

LSA ASSOCIATES, INC.
157 PARK PLACE
PT. RICHMOND, CALIFORNIA 94801
510.236.6810 TEL
510.236.3480 FAX
BERKELEY
CARLSBAD
FORT COLLINS
FRESNO
IRVINE
PALM SPRINGS
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO
SOUTH SAN FRANCISCO

April 24, 2013

Cameron Johnson
South Branch Chief
U. S. Army Corps of Engineers
1455 Market Street, 16th Floor
San Francisco, CA 94103-1398

Subject: Request for Verification of Jurisdictional Delineation for the Hayward Executive Airport Project Site, City of Hayward, Alameda County, California

Dear Mr. Johnson:

On behalf of our client, Reynolds, Smith and Hills, Inc., LSA Associates, Inc. (LSA) is requesting verification of the extent of U.S. Army Corps of Engineers (Corps) jurisdiction under Section 404 of the Clean Water Act for the above-referenced project site. This letter presents the results of a delineation performed by LSA of the potential extent of waters of the United States, including wetlands, on the project site.

SITE DESCRIPTION

The approximately 6.9-acre project site is located at the northwestern end of the Hayward Executive Airport, which is located west of Interstate 880 and accessed from Skywest Drive at the western end of West A Street, 2/3 mile west of its intersection with I-880. The project site is bounded by the airport to the southeast, industrial park to the southwest, Clubhouse Drive and the municipal Skywest Golf Course to the northwest, and airport hangers to the northeast (Alameda County Assessor's Parcel Numbers 432-134-1-5 and 432-124-1-4). The site is situated within an un-sectioned portion of Township 3 South, Range 2 West on the Hayward, California 7.5-minute USGS quadrangle, and is centered at 37.6614° North Latitude and 122.1265 West Longitude. Figures 1 and 2 (attached) depict the regional location and project site location, respectively.

The project site includes runways, taxiways, unpaved grass infields, and reaches of Sulphur Creek. There are no buildings on the site. Most of the site has been graded to drain through swales and culverts to Sulphur Creek. The southwestern edge of the site has an airport perimeter fence.

Vegetation on the site is dominated by ruderal grassland. The site has no trees; the only woody vegetation present is small coyote brush (*Baccharis pilularis*), a native ruderal shrub. Grass species observed consist of wild oats (*Avena* sp.), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), Italian ryegrass (*Festuca perennis*), and Mediterranean barley (*Hordeum marinum*). Forb species observed include bur medic (*Medicago polymorpha*), bird's foot trefoil (*Lotus*

corniculatus), English plantain (*Planatago lanceolata*), prickly ox-tongue (*Helminthotheca echioides*), and suckling clover (*Trifolium dubium*).

The soil on the majority of the project site is mapped by the U.S. Department of Agriculture as Clear Lake clay, drained, 0 to 2 percent slopes (Map Unit Symbol 107); with the soil on a northern corner of the site mapped as Danville silty clay loam, 0 to 2 percent slopes (111). Clear Lake clay is listed as hydric in in areas where the water table is within one foot of the surface during the growing season or is seasonally ponded. The Danville silty clay loam is not listed as hydric except in inclusions of Clear Lake clay (Web Soil Survey, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx, accessed 11 March 2013). The clear Lake clay is described as poorly drained and with slow permeability. The Danville silty clay loam is described as well drained and with slow permeability (USDA Soil Survey of Alameda County, 1981).

The entire project site drains via constructed shallow ditches and culverts to Sulphur Creek, which bisects the site. Sulphur Creek is tributary to San Francisco Bay, a traditional navigable water of the United States, which is located approximately one mile west of the project site.

METHODS

The field investigations of potentially jurisdictional wetlands were conducted using the routine determination method provided in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the revised procedures in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (Arid West Supplement; U.S. Army Corps of Engineers 2008). This methodology entails examination of specific sample points within potential wetlands for hydrophytic vegetation, hydric soils, and wetland hydrology. By the federal definition, all three parameters must be present for an area to be considered a wetland.

Hydrophytic plant species are listed by the National Wetland Plant List (2012). The National List identifies five categories of plants according to their frequency of occurrence in wetlands. The categories are:

•	Obligate wetland plants (OBL)	Plants that occur almost always in wetlands
•	Facultative wetland plants (FACW)	Plants that usually occur in wetlands
•	Facultative plants (FAC)	Plants that are equally likely to occur in wetlands or non-wetlands
•	Facultative upland plants (FACU)	Plants that usually occur in uplands
•	Obligate upland plants (UPL)	Plants that occur almost always in non-wetlands

An area is generally considered to have hydrophytic vegetation when more than 50 percent of the dominant species in each stratum (tree, shrub, and herb) are in the obligate wetland, facultative wetland, or facultative categories.

Hydric soils are defined by criteria set forth by the National Technical Committee for Hydric Soils (NTCHS). These criteria are given in the Wetland Delineation Manual Supplement and are based on depth and duration of soil saturation. Hydric soils are commonly identified in the field by using indirect indicators of saturated soil, technically known as redoximorphic features. These features are

caused by anaerobic, reduced soil conditions that are brought about by prolonged soil saturation. The most common redoximorphic features are distinguished by soil color, which is strongly influenced by the frequency and duration of soil saturation. Hydric soils tend to have dark (low chroma) colors that are often accompanied by reddish mottles (iron mottles), reddish stains on root channels (oxidized rhizospheres), or gray colors (gleying). The Arid West Supplement contains descriptions of numerous federally-recognized hydric soil indicators.

Under natural conditions, development of hydrophytic vegetation and hydric soils are dependent on a third characteristic, wetland hydrology. This criterion is met if the area experiences inundation or soil saturation to the surface for a period equal to at least five (5) percent of the growing season (about 14 days in the region of the project site) in a year of median rainfall. In most cases, this criterion can only be measured directly by monitoring the site through an entire wet season. In practice, the hydrological status of a particular area is usually evaluated using indirect indicators. Some of the indicators that are commonly used to identify wetland hydrology include biotic crusts and oxidized rhizospheres around roots. The Arid West Supplement gives thorough descriptions of numerous federally-recognized indicators of wetland hydrology.

FIELD METHODS

LSA soil scientist Chip Bouril investigated the site on March 15, 2013. The last significant rainfall of approximately ½ inch occurred on February 19.

Wetland boundaries and sample point locations were mapped using a global position system (GPS) receiver with sub-meter accuracy. Wetland boundaries were determined by following a combination of the limits of hydrophytic vegetation, the limits of observed wetland hydrology, topographic breaks, and interpretation of aerial photography.

LSA established 5 sample points on the project site. Their locations are shown on Figure 3.

OBSERVATIONS

Potential jurisdictional features as identified by LSA are mapped on Figure 3.

Sulphur Creek

Approximately 3,150 linear feet of a perennial stream, called Sulphur Creek, flows westward through the study site. Roughly half of this length is conveyed underground beneath runways and taxiways within six sets of culverts. The second most downstream surface reach of the creek flows within a trapezoidal concrete channel. The remaining surface reaches of Sulphur Creek have been channelized into relatively straight, mostly trapezoidal, earthen channels. Although this reach of Sulphur Creek is located less than a mile from San Francisco Bay, the concrete-lined channel near the downstream study site boundary holds the study site reaches of the creek above the elevation of tidal influence.

Some of the creek bed and most of its lower banks are vegetated with freshwater marsh plant species, predominantly cattails (*Typha* spp.) and bulrushes (*Schoenoplectus* spp.). In the upstream surface reach of the creek, a low flood plain within the trapezoidal channel banks also supports similar

wetland plant species. The creek's upper banks are vegetated with ruderal non-wetland grasses and forbs, similar to those in the unpaved infields between the runway and taxiways.

Most of the earthen channel reaches of Sulphur Creek have a well-defined low flow channel with a relatively flat bed and steep cut banks. At some locations, debris wrack deposits outside this channel show that the creek does typically flow outside this channel after significant rainfall events. In some locations, the low flow cut bank is interpreted as the Ordinary High Water Mark elevation, while in other areas, the Ordinary High Water Mark elevation appears to extend outside the low flow channel onto adjacent lower banks. At these locations, the wetland vegetation also extends beyond the low flow channel. As Ordinary High Water Mark is defined as including adjacent wetland vegetation, the Ordinary High Water Mark is mapped as extending to the limit of wrack and wetland vegetation in these reaches.

The Ordinary High Water Mark width of the Sulphur Creek surface channel varies between 8 and 30 feet. The total potential jurisdictional length of the surface channel reaches of Sulphur Creek is 1,710 feet and the total potential jurisdictional area is 0.73 acre.

The total widths of the Sulphur Creek culverts range between 16 and 18 feet. Some reaches of Sulphur Creek are culverted in two approximately 8-foot wide box culverts, while other reaches are culverted in four 4-foot diameter pipes. The total potential jurisdictional length of the culverted reaches of Sulphur Creek is 1,440 feet and the total potential jurisdictional area is 0.53 acre.

Sulphur Creek is delineated as an Other Water of the United States. The combined surface and culverted reaches of Sulphur Creek have a total potential jurisdictional length of 3,150 feet and total potential jurisdictional area of 1.26 acres.

Ditches and Basins

Constructed shallow drainage ditches and swales drain the unpaved airport infields to Sulphur Creek. These ditches extend mostly to the southeast of Sulphur Creek and include culverts underneath taxiways. LSA established 4 sample points to test for jurisdictional wetland indicators in these features. Although several locations within these drainage swales contain some wetland plant species and evidence of recent seasonal ponding, most locations do not meet jurisdictional wetland criteria. These swales do not have a bed and bank and do not show evidence of scour, so are not delineated as jurisdictional Other Waters of the United States. The one exception is an approximately 115-foot long reach of ditch between Taxiway A and Runway 10L, where Sample Point 1 was placed. The soil was saturated during the site investigation and vegetation included nut sedge (*Cyperus eragrostis*), a wetland plant not found at other ditch locations. In addition, this reach of ditch did show evidence of scour. Although both the potential jurisdictional wetland and Other Waters evidence for this reach are marginal, this reach of ditch is delineated as potentially jurisdictional based on this combination of characteristics. The potential jurisdictional area of the ditch is 0.010 acre.

Other Observations

Sample Point 3 was placed in a distinct basin within the unpaved infield. Despite its basin form, it did not show any convincing evidence of ponding or other jurisdictional wetland characteristics.

Several culverts empty into Sulphur Creek within the study site. These are presumed to be airport or municipal storm drains which are delineated as non-jurisdictional.

The remainder of the site is vegetated with upland plant species and did not have any wetland characteristics. No other evidence of potential waters of the United States was observed on the site.

CONCLUSIONS

Potential Clean Water Act Section 404 jurisdictional features identified on the Hayward Executive Airport Project Site consists of Sulphur Creek, with a total potential jurisdictional length of 3,150 feet and an area of 1.26 acres, and a wetland drainage ditch with a potential jurisdictional length of 115 feet and an area of 0.010 acre.

Potential jurisdictional features, project site boundaries, and sample point locations are mapped on the attached Figure 3.

The findings and conclusions presented in this report, including the location and extent of other waters subject to Section 404 regulatory jurisdiction, represent the professional opinion of LSA. These findings and conclusions should be considered preliminary until verified by the Corps.

Please contact me or Ross A. Dobberteen, Ph.D., Principal-in-charge, at (510) 236-6810 to schedule a verification visit.

Sincerely,

LSA ASSOCIATES, INC.

CHIP BOURIL

Chip Bouril
Wetland Scientist

Attachments: Figure 1 - Regional Location
Figure 2 - Project Location
Figure 3 - Delineation Map
Data Sheets 1 through 5

cc: Mr. David Full, Vice President Aviation,
Reynolds, Smith and Hills, Inc., 369 Pine Street, Suite 610, San Francisco, CA 94104

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APPENDIX D

Sponsor Land Use Assurance Letter

CITY OF
HAYWARD
HEART OF THE BAY

March 10, 2014

Mr. Douglas Pomeroy
Environmental Specialist
Federal Aviation Administration
San Francisco Airport District Office
1000 Marina Boulevard, Suite 220
Brisbane, California 94005-1835

RE: LAND USE ASSURANCE – HAYWARD EXECUTIVE AIRPORT

Dear Mr. Pomeroy:

The City of Hayward (City) makes the following statement of compatible land use assurance as required by Section 511 (a)(5) of the Airport and Airway Improvement Act of 1982, as amended:

> The City provides assurance that appropriate action, within the authority of the City, including encouragement of the adoption of zoning laws, has been or will be taken, to the extent reasonable to restrict the use of land adjacent to or in the immediate vicinity of Hayward Executive Airport (Airport) to activities and purposes compatible with normal airport operations, both existing and in the future. The City works with adjacent land owners and encourages the adoption of zoning laws, to the extent reasonable, to restrict the use of land adjacent to or in the vicinity of the Airport to activities and purposes compatible with Airport operations.

As the Airport sponsor, the City assures; as required under 49 United States Code (USC) 471 07(a)(1 0), formerly section 511 (a)(5) of the 1982 Airport Act, that appropriate action, including the adoption of zoning laws, has been or will be taken to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the Airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft.

The Proposed Action to culvert Sulphur Creek is consistent with the land use plans established by the City of Hayward per 49 USC Section 47107(a)(10).

If the Federal Aviation Administration has any further questions regarding Airport land use assurances, please contact me.

Sincerely,

Douglas McNeeley
Airport Manager

Cc: Nicholas Kozlik, RS&H

DEPARTMENT OF PUBLIC WORKS ENGINEERING & TRANSPORTATION
HAYWARD EXECUTIVE AIRPORT
20301 SKYWEST, HAYWARD, CA 94541
TEL: 510/293-8678 • FAX: 510/783-4556 • TDD: 510/247-3340 • www.haywardairport.org

APPENDIX E

2001 SHPO Concurrence Letter

STATE OF CALIFORNIA – THE RESOURCES AGENCY
OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax (916) 653-9824
calshpo@mail2.quiknet.com

GRAY DAVIS, Governor

June 18, 2001

REPLY TO: FAA010423A

Joseph R. Rodriquez, Supervisor, Planning and Programming Section
Federal Aviation Administration
831 Mitten Road, Room 210
BURLINGAME CA 94010

Re: Section 106 Consultation for the Hayward Executive Airport Master Plan, Hayward, Alameda County.

Dear Mr. Rodriquez:

Thank you for submitting to our office your April 19, 2001 letter, Draft Environmental Assessment/Environmental Impact Report (DEA/EIR), and Cultural Resource Assessment (CRA) regarding the Hayward Executive Airport Master Plan, Hayward, Alameda County. The Federal Aviation Administration (FAA) is the lead federal agency responsible for an environmental determination in accordance with the National Environmental Policy Act (NEPA) for near-term Master Plan improvements at Hayward Executive Airport. The FAA has reviewed a revised Airport layout Plan (ALP) for future grant funding or local project implementation within the time period of 2000 to 2005. A description of the planned projects is contained in your letter and the DEA/EIR. The proposed Area of Potential Effect (APE) for the proposed undertaking is defined by the boundary of the airport. The project APE appears adequate and meets the definitions set forth in 36 CFR 800.16(d).

FAA is seeking our comments on its determination of the eligibility of architectural and archeological properties located within the project APE for inclusion on the National Register of Historic Places (NRHP) in accordance with 36 CFR 800, regulations implementing Section 106 of the National Historic Preservation Act. FAA is also seeking our comments on its determination of the effects the proposed project will have on historic properties in accordance with 36 CFR 800. Our review of he submitted DEA/EIR and CRA leads us to make the following comments:

- The DEA/EIR and CRA documentation make reference to pre-1955 architectural properties within the project APE, but provides very little information on specific structures and their potential for inclusion on the National Register of Historic Places (NRHP). Despite FAA's assertion that these properties fail to meet NRHP eligibility criteria, no information was provided to support this determination. For the purposes of recording these resources in our information systems database, it is essential that documentation on pre-1955 architectural properties contain information on the structures' description, its date of construction, and its historic as well as current usage on the facility. This information should be part of any documentation that is required to be evaluated against NRHP eligibility

criteria. Please provide our office with any information on specific pre-1955 structures that may exist within the project APE.

- The information contained in the CRA regarding archeological properties is more detailed and appears to address the question of the existence of significant archeological resources within the project APE. On the basis of this information, we can concur with FAA's determination that no known significant archeological resources are located within the project area. We do encourage FAA to implement, where feasible, the "Management Recommendations" noted on Page 7 of the CRA regarding the treatment of any undiscovered archeological resources that may be exposed during project construction. Such recommendations appear consistent with guidance set forth in 36 CFR 800.13.

We will provide additional comments regarding the FAA's finding of effect on pre-1955 architectural properties pending receipt of supplemental information clarifying the NRHP eligibility of these properties.

Thank you again for seeking our comments on your project. If you have any questions, please contact staff historian Clarence Caesar at (916) 653-8902.

Sincerely,

Dr. Knox Mellon
State Historic Preservation Officer

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APPENDIX F
Addenda and Response to Comments

ADDENDA

The following corrections and changes are made to the Draft EA and are incorporated as part of the Final EA. New language is underlined (e.g. new text). Deleted text is shown with strikethrough (e.g. ~~deleted text~~).

Global Changes:
All instances of "feasible and prudent" were changed to "reasonable and practicable" in the document.

Footers were changed to reflect the appropriate month of publication.

Section1.7 on Page 1-12:
The FAA will determine whether it can issue a Finding of No Significant Impact (FONSI) and Record of Decision (ROD) based on the evaluation in this EA, or whether an Environmental Impact Statement (EIS) must be completed before a ROD can be considered ~~issued~~. ~~Once~~ If a ROD is issued for the Proposed Action, the phased construction of the Proposed Action is projected to be completed within three years.

Chapter 2 was substantially modified to accommodate FAA Regional review.

Section 3.3.8.1 on Page 3-27:
Approximately 3,100 linear feet of an intermittent ~~perennial~~ stream, Sulphur Creek, flows westward across the Airport. Roughly half of this length is conveyed underground beneath runways and taxiways within five sets of culverts.

Section 4.5.2.2 on Page 4-12:
This analysis ~~shows~~ estimates that the water surface elevations with implementation of the Proposed Action ~~is estimated to be only~~ would be 0.1-foot higher during both the 15-year and 100-year storm events. This estimated 0.1-foot difference in floodplain elevation is not significant. Both the existing Sulphur Creek vegetated channels and the culverts that connect those channels to existing Sulphur Creek underground box culverts can become overgrown with obstructing vegetation. With implementation of the Proposed Action, these areas would be placed in underground culverts that could not be obstructed by vegetation growing in the channel. The HEC-RAS modelling is not sensitive enough to predict how much the lack of vegetation in the channel might increase the channel capacity. However, in general, channels with no vegetation would have a higher capacity that channels that contain vegetation.

Section 4.10.1.2 on Page 4-25:
~~HWD may develop and submit a Clean Water Act, Section 404 permit application for the Proposed Action once the extent of the Proposed Action within Clean Water Act jurisdiction is known~~. No response was ever received from the USACE and a USACE file number was not assigned.

Section 4.10.3 on Page 4-25:
4.10.3 Mitigation and Minimization

This section describes mitigation and minimization measures that could be used to reduce the adverse wetland effects associated with implementing the Proposed Action.

Section 4.10.3.1 on Page 4-26:
HWD may develop and submit a Clean Water Act, Section 404 permit application for the Proposed Action once the extent of the Proposed Action within Clean Water Act jurisdiction is known. Coordination with the USACE has begun, but permitting would be performed as part of the design process.

Section 4.10.3.2 on Page 4-26:
4.10.3.2 Minimization
Construction would result in criteria pollutant emissions, could potentially result in erosion and sedimentation runoff, and would result in a temporary increase in vehicle miles traveled at the Airport over the duration of construction activities. Contractors should implement BMPs and minimization measures to reduce the impact of construction activities on water quality, traffic, and air quality. An example of some of these BMPs and minimization measures include:

- Stabilize construction entrances and exits to prevent tracking onto roadways.
- Protect exposed slopes from erosion through preventative measures and cover the slopes to avoid contact with storm water by hydroseeding.
- Apply mulch or using plastic sheeting on exposed areas.
- Capture and treat stormwater runoff within an existing sedimentation and filtration basin.
- Install straw wattles and silt fences on contours to prevent concentrated flow, straw wattles should be buried three to four inches into the soil, staked every four feet and limited to use on slopes that are no steeper than three units horizontal to one unit vertical - silt fences should be trenched six inches by six inches into the soil, staked every six feet, and placed two to five feet from any toe of slope.
- Designate a concrete washout area to avoid wash water from concrete tools or trucks from entering gutters, inlets or storm drains, and maintain washout area and dispose concrete waste on a regular basis.
- Establish a vehicle storage, maintenance and refueling area to minimize the spread of oil, gas and engine fluids.
- Use oil pans under stationary vehicles, if necessary.
- Protect drainage inlets from receiving polluted storm water through the use of filters such as fabrics, gravel bags or straw wattles.
- Check the weather forecast and be prepared for rain by having necessary materials onsite before the rainy season.
- Inspect all BMPs before and after a storm event and maintain BMPs on a regular basis and replace as necessary.

Section 5.5 on Page 5-2:

5.5 FINAL EA AVAILABILITY FOR REVIEW

A 30-day review period for this Final EA and proposed FONSI/ROD started on June 26, 2015 and ended on July 27, 2015. A notice of availability for these documents was published concurrent with their release for a 30-day review period. Copies of the document are also available for inspection on the HWD website at http://www.haywardairport.org. The addresses for locations of where the Final EA and proposed FONSI/ROD are available for review are provided in **Table 5-1**.

RESPONSES TO COMMENTS

The Draft EA was sent to the agencies, organizations, and individuals on the distribution list, which is presented on the following page.

This appendix contains a list of comments received concerning the Draft EA during the 30-day comment period (16 January 2015 through 17 February 2015) and the responses to those comments. This page contains text changes to the Draft EA, reflecting necessary corrections addressed by the public comments, responses to comments, or initiated to correct the Draft EA. Each comment is numbered in the margin of the comment letter received by the Airport and the responses that address the comments correspond to the same numbering scheme.

A copy of this Final EA was sent to agency, organizations, and individuals who commented on the Draft EA.

DISTRIBUTION LIST		
Entity	**Physical Mailing**	**Email**
United States Army Corps of Engineers	1455 Market Street San Francisco, CA 94103	
United States Fish and Wildlife Service	2800 COTTAGE WAY, ROOM W-2606 SACRAMENTO, CALIFORNIA 95825-1846	
Golden Gate Audubon Society	2530 San Pablo Avenue, Suite G Berkeley, California 94702	cmargulis@goldengateaudubon.org
Sierra Club - Southern Alameda County Group	**NONE**	toniwise@mac.com
Alameda County	224 W. Winton, Room 111 Hayward, CA 94544	elizabeth.mcelligott@acgov.org
Hayward Airport Land Use Commission	**X**	cindy.horvath@acgov.org
Alameda County Flood Control	399 Elmhurst Street Hayward, California 94544-1395	info@acpwa.org
Regional Water Quality Control Board	Our Office is Located at: 1515 Clay St Suite 1400 Oakland, CA 94612	info2@waterboards.ca.gov
Bay Area Air Quality Management District	Bay Area Air Quality Management District 939 Ellis St. San Francisco, CA 94109	hhilken@baaqmd.gov
City of Hayward Planning	777 B STREET - HAYWARD, CA 94541	Sara.Buizer@hayward-ca.gov
FAA Region	San Francisco ADO 1000 Marina Blvd, Suite 220 Brisbane, California 94005-1835	Douglas.Pomeroy@faa.gov
California DOT Division of Aeronautics		Philip.Crimmins@dot.ca.gov
CA Fish and Wildlife Service Bay-Delta Office	7329 Silverado Trail, Napa CA 94558	askbdr@wildlife.ca.gov
Library	777 B STREET - HAYWARD, CA 94541	

Ernie Delli Gatti
Ernie Delli Gatti (ejdelligatti@hotmail.com)
Ernest Delli Gatti (Ernest.DelliGatti@USCG.MIL)

Deanna Bogue
Deanna Bouge (dbhwd@msn.com)

Shirley Bos
Shirley Bos (bosara@msn.com)

Howard Beckman
Howard Beckman (hpb@frys.com)

FRIENDS OF SAN LORENZO CREEK

Date: February 16, 2015

To: Douglas McNeeley
Airport Manager
Hayward Executive Airport
20301 Skywest Drive
Hayward, CA 94501
douglas.mcneeley@hayward-ca.gov

From: Bruce King
Friends of San Lorenzo Creek
3127 Terry Court
Castro Valley, CA 94546
BruceKing8@gmail.com

Subject: Comments on Behalf of Friends of San Lorenzo Creek on
The January 2015 Draft Environmental Assessment for the
Hayward Executive Airport Runway Safety Enhancement Project

Dear Mr. McNeeley:

This letter provides comments made on the behalf of the Friends of San Lorenzo Creek (FSLC) on the January 2015 Draft Environmental Assessment for the Hayward Executive Airport Runway Safety Enhancement Project.

FSLC is concerned with the entire drainage system and creeks within in the San Lorenzo Creek watershed. This project involves potential riparian and aquatic impacts on Sulphur Creek.

FSLC Comment 1.0

#1 The draft Environmental Assessment (EA) does not assess the impacts of each project alternative on the current and future potential of the lower reaches of Sulphur Creek as an aquatic and riparian corridor system that extends from San Francisco Bay to Hesperian Boulevard (See Figure 1).

#2 In addition, the proposed project alternatives do not describe how the Sulphur Creek corridor system can be improved and impacts to the creek can be minimized by the project. Alternatives that improve the lower reaches of the Sulphur Creek corridor system and minimize impacts need to be presented in the EA. Comments 1.1 to 1.5 provide more-specific comments and information on the above general comment.

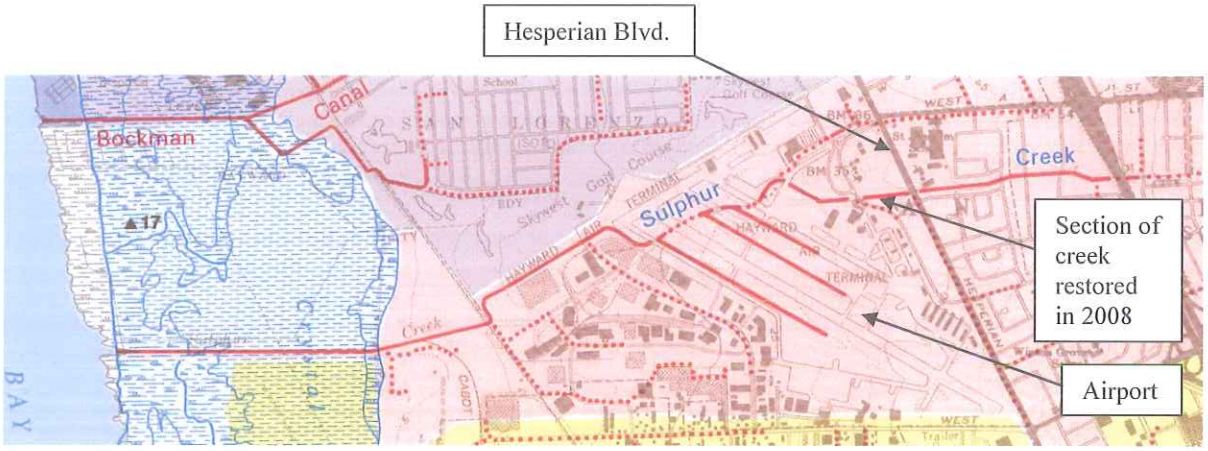

Figure 1
Sulphur Creek Channels and Corridor Downstream of I-880

Map excerpted from: Creek and Watershed Map of Hayward and San Leandro by Janet M. Sowers, William Lettis & Associates, Inc. Historical wetlands research by the San Francisco Bay Institute. Published by Oakland Museum of California 1997. ISBN 1-882140-12-5.

FSLC Comment 1.1

#3

The EA needs to include, consider, and evaluate the types of creek-corridor conditions, needs, and alternatives that are presented in the "watershed enhancement recommendations" for the Sulphur Creek Basin developed by the Alameda County Flood Control and Water Conservation District Zone 2 (Reference: Zone 2 Watershed Enhancement Recommendations, Clean Water Division, June 30, 2005). Attached to this letter are the Sulphur Creek Basin recommendations excerpted from the Flood Control District report. Here is an example of one recommendation from this report:

> **Improve fish passage from San Francisco Bay to Hesperian Boulevard.**
> "Improved fish passage will allow more species and corresponding life-stages to inhabit this creek. This primarily involves the replacement of existing culverts, from Hesperian Boulevard downstream, with a single-span culvert with an earthen bed and minimal grade change. Because this watershed is not disconnected from the Bay by tide-gates, as is common in small drainages to the Bay, there exists a unique opportunity to better establish creek-to-bay fisheries connectivity. Within Zone 2, only Sulphur Creek and San Lorenzo Creek have this feature."

FSLC Comment 1.2

#4

The proposed project Alternative 1 would result in a significant total-continuous stretch of Sulphur Creek at the Hayward Airport being underground. The total-continuous stretch of undergrounded creek that would be created by Alternative 1 would be approximately 1600 feet or 0.3 miles. See Figure 2. Undergrounding such an extensive section of creek would create a significant break in the aquatic and riparian corridor and a barrier to the migration of aquatic and terrestrial animals. The EA needs to include this impact and describe how the Sulphur Creek corridor system can be improved and impacts to the creek can be minimized by the project.

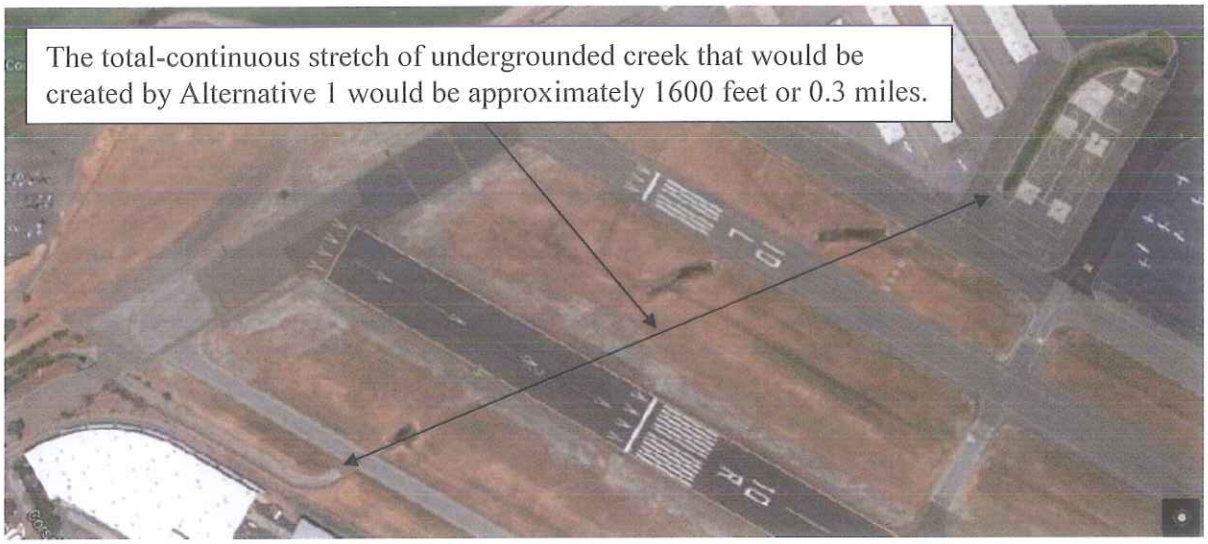

Figure 2. Sulphur Creek and corridor distance-barrier created by Alternative 1

FSLC Comment 1.3

#5

The EA needs to include fish and other animals that inhabit or potentially inhabit Sulphur Creek, their habitat needs, their need to migrate, impacts on these animals, and how the Sulphur Creek corridor system can be improved for these animals and impacts can be minimized by the project. The Sulphur Creek Basin section of the 2005 Flood Control District report noted that fish (most likely stickleback or *gambusia*) were sighted at in Sulphur Creek. Other fish that inhabit creeks in the San Lorenzo Creek Watershed are noted in the following report: Fish Habitat and Fish Population Assessment for The San Lorenzo Creek Watershed, Alameda County, California; Alameda County Flood Control and Water Conservation District and Hagar Environmental Science; January 31, 2002.

FSLC Comment 1.4

#6 The EA needs to describe the creek corridor environmental benefits and impacts of implementing a project alternative such as Alternative 2. This alternative includes concrete support walls, open-air load-bearing grates, and a natural-earthen creek bottom that supports the migration of fish and other animals. This alternative should also include expanding this open-grate, engineered creek design to the other sections of Sulphur Creek that are in existing concrete culverts on each side the runways. Opening these additional short sections of creek to light and natural creek bottoms may reduce distance and man-made barriers to fish and other animals.

FSLC Comment 1.5

#7 The EA needs to describe impacts and project alternatives that minimize impacts on movement of fish and other animals to and from the earthen and natural sections of Sulphur Creek upstream of airport runways. This includes the section of Sulphur Creek just downstream from Hesperian Boulevard that was restored in 2008.

FSLC Comment 2.0

The EA's Alternatives Screening Evaluation (Section 2.4) needs to support statements and conclusions that are made based on data, references, and all available options. Comments 2.1 and 2.2 listed below provide specific explanations for this general comment.

FSLC Comment 2.1

#8 EA Statement and Conclusion: "Grating needed to maintain safety standards in the event aircraft veer over the grate would not allow sufficient daylighting for wetland flora to continue to grow."

FSLC Comments: All potential gratings and designs need to be included in the scope of the EA, along with an evaluation the grating's ability to enhance or support the creek flora and fauna and the riparian corridor (e.g., migration and life cycle of aquatic fish and animals).

FSLC Comment 2.2

#9 EA Statement and Conclusion: "The grating would deter larger birds (e.g., geese) from foraging and resting within Sulphur Creek. However, small rodents or other prey species would have the potential to inhabit this segment of Sulphur Creek and could move outside of the grating into the AOA or RSA and attract large, hazardous predatory birds that present potential wildlife-aircraft strike hazards."

FSLC Comments: The potential and likelihood of attracting "…large, hazardous predatory birds that present potential wildlife-aircraft strike hazards" at this location when using an open-grating design needs to be supported by actual air-field data of birds at airports in the Bay Area that use this design.

FSLC Comment 3.0

#10 If Alternatives 1, 2, or 3 are selected as the project alternative, the project should be required to select and provide sufficient funding to restore an actual section of creek and wetland area within the Sulfur Creek or San Lorenzo Creek watershed. The restoration should be a 1:1 comparable mitigation (e.g., restore a section of underground creek), and projects with the greatest environmental impact and public visibility should be selected. All agencies that have jurisdiction over the San Lorenzo Creek watershed should be consulted, and the public should be invited for input on the project to be selected. There are many sections of creek within the watershed that are undergrounded, in concrete channels, have high environmental value for restoration, and have the ability to be restored. Agencies that manage the San Lorenzo Creek watershed should not be allowed to purchase stream channel and/or wetland habitat credit from a mitigation bank so that mitigation can occur in a different watershed.

Please keep me informed of further actions, plans, or decisions related to this project.

Sincerely,

Bruce W. King

Bruce King
On Behalf of the Friends of San Lorenzo Creek

Email: BruceKing8@gmail.com
Home: 510-886-0997, Work: 510-495-2768

February 17, 2015

Doug McNeeley, Manager
City of Hayward Airport
20301 Skywest Drive
Hayward 94501

Runway safety area enhancement project

Dear Doug,

#11

The draft Environmental Assessment for the runway safety area enhancement project (dated January 2015) states that it is intended to satisfy NEPA requirements for FAA action on the project but does not state whether it will also be used to satisfy California Environmental Quality Act (CEQA) requirements for City of Hayward action on the project. The FAA is subject to NEPA because it plans to fund the runway safety area enhancement; the City of Hayward is subject to CEQA because it is the agency, as owner of the airport, that will decide whether to go ahead with the project.

It is customary to prepare a single environmental impact analysis that satisfies both NEPA and CEQA, and in the past that approach has been taken on Hayward Airport projects. How will the City of Hayward meet its obligation under CEQA for the proposed RSA enhancement project? Will the city council be presented with an "initial study" as required by CEQA, or will it be asked to certify that the EA prepared for the FAA meets CEQA requirements?

Please respond by e-mail.

Regards,

Howard Beckman

1261 via Dolorosa
San Lorenzo 94580

E: HPB@frys.com
V: 510.278.7238

February 16, 2015

Doug McNeeley, Manager
City of Hayward Airport
20301 Skywest Drive
Hayward 94501

Hand Delivery

Herewith are my comments on the draft "Environmental Assessment: Hayward Executive Airport Runway Safety Enhancement Project" (dated January 2015).

Circulation and Notice: Timing and Outreach

#12 While the issue of the open Sulphur Creek within the airport's runway safety area has been "in the air" for the past few years, specific notice of the proposed project and draft Environmental Assessment (EA) was made only one day before the start of the period designated for public comment (Jan. 16 - Feb. 17, 2015). Likewise, a notice was published in the Daily Review only on Jan. 16. The draft EA documents no other outreach to the general public.

#13 The draft EA (App. A) documents an invitation in 2013 to various government agencies to comment on the scope of the EA, but provides no evidence that an effort was made to identify and contact individuals and organizations that might have an interest in the undergrounding of portions of Sulphur Creek. This despite the fact that the draft EA declares (pg. 5-1), consistent with FAA policy: "Keeping agencies and the public informed and gathering their input is an *essential component* of any environmental study." (Italic added for emphasis.)

#14 The requirement for rigorous analysis of the environmental impacts of proposed government actions is not a mere bureaucratic step to approval of a project. It is fundamentally intended to protect the public interest, i.e., something larger than simply the administrative or regulatory interests of government agencies. In particular, the requirement is intended to ensure the general public that government has taken a "hard look" at the environmental impacts of a proposed project.

#15 Thus, keeping the public informed <u>is</u> an essential component of any environmental study, as the draft EA states. However, there is no evidence in the EA that RS&H (which prepared the draft EA), the City of Hayward, or the FAA has fulfilled this obligation.

As a result of the short notice to the public, I did not have adequate time to thoroughly review the draft EA and comment meaningfully on all matters I consider important.

/Continued ...

Organization of Environmental Assessment

I wasted a great deal of time, in the short period available, hunting through the draft EA for related information. The draft EA is written in such a way that it is not easy to find particular information of interest. First, instead of explaining in the text the connection between successive topics, the authors have relied on sequential numbering of paragraphs as the basis for the document's organization. Because readers understand that the number 2 follows number 1, etc., they assume at the outset that there must be some logical connection between, say, paragraphs 1.1 and 1.2, even if there is none.

#16 Second, much of the text, particularly in chapters 1 - 3, is repetitious and circular, such that discussion of a particular idea or issue is broken up between different parts of the document (see for ex. the discussions of level 1 and level 2 analyses). And in this respect, without cross references in the text, the hierarchical numbering of the text on its own does not help at all in locating specific details. The use of hierarchical numbering may be common (even if not ideal) in certain kinds of documents, but it is useful only for cross-referencing and only when the underlying organization is logical and economical.

My point here is not simply to comment editorially, but to complain that the organization of the draft EA compounded the problem of the short notice for ordinary citizens who voluntarily read such documents.. Moreover, as I have spent my life editing in a variety of media and subjects, and (separately) have long experience in reviewing documents like the draft EA, I can only imagine that other, less experienced, citizens might have quickly thrown in the towel because of the difficulty of finding particular information of interest.

Compliance with CEQA

#17 The draft EA does not discuss the document's relationship, if any, to any environmental impact analysis required under the California Environmental Quality Act. The FAA is subject to NEPA because it plans to fund the runway safety area enhancement; the City of Hayward is subject to CEQA because it is the agency, as owner of the airport, that will approve the project. Since, strictly speaking, this issue is not relevant to an EA prepared to satisfy NEPA, I have addressed this question in a separate letter to the City of Hayward.

Purpose and Need of the Project

#18 The need and purpose of an action are significant factors in determining whether any harm to the environment from the action is, on balance, justifiable, i.e., wise. The approving agency must

/Continued ...

#18 cont

answer two questions: Is the project necessary, and why is it necessary?

#19

The draft EA describes the need for the project in broad terms of safety (in particular the chance that an aircraft might veer off the runway and into Sulphur Creek) but does not describe the compromises that the City of Hayward has accepted in electing to have runway safety areas that are shorter than the FAA design standard. Thus the draft EA does not answer the question why the project is necessary.

#20

The draft EA (pg. 1-4) describes in summary runway length, RSA, and "displaced threshold," but states simply that the displaced thresholds are "in place ... to accommodate any aircraft that undershoots the runway as the existing Runway Safety Area for Runway 10R-28L is shorter than the FAA design standard." It does not explain why this is the case. If the City of Hayward, in collaboration with the FAA, is making successive choices in the development of the airport that in effect constitute one bad choice after another (choices that do not meet professional or policy standards), this is important information in assessing the wisdom of the City's or FAA's election to harm the environment (here Sulphur Creek). And it belongs in the EA since the disclosures in that document are intended ultimately for the public, including elected officials.

Culverting of Sulphur Creek

#21

The principal environmental impact of the proposed project is underground enclosure (culverting) of three segments of Sulphur Creek. The stated purpose of culverting, along with regrading of areas between runways and taxiways, is in part to improve drainage in these areas, i.e., to alleviate "ponding" (EA pg. 1-6). Ponding, according to the EA, attracts wild birds that represent a hazard to aircraft landing or departing the runways. The airport, however, is immediately adjacent to thriving bayshore bird habitats, and the EA does not refer to this potential flight hazard, nor does it provide any hard evidence of the number of birds attracted to temporary accumulations of rainfall at the airport, and thus does not assess the relative hazard of this potential population and the much larger population on the bayshore.

#22

In addition, the EA states (pg. 1-9) that flooding under existing conditions is caused by both culvert blockages and vegetation growth within exposed channels. The EA notes that culverting will eliminate the vegetation growth, but does not explain whether or how construction of more culverting will alleviate the blockage problem. If blockage has been a significant problem, why has the City been unable to correct the problem, and how would that change if the proposed project were executed?

/Continued ...

Mitigation of Impacts to Wetlands

#23

The proposed project would fill 550 linear feet of creek channel (0.01 acres), a significant loss of Waters of the U.S. for which mitigation is required.

Whenever development results in negative impacts on a creek, the rule of mitigation should be no net harm to the creek. Thus mitigation for the proposed project's impact on wetlands should be an improvement upstream in Sulphur Creek, outside the airport, and preferably in the upper reaches of the creek in the hills where daylighting is feasible. In addition, selection of the site and type of work should be decided in consultation with knowledgable local advocates of creek preservation as well as the Alameda County Flood Control District.

Howard Beckman, Esq.

1261 via Dolorosa
San Lorenzo 94580

E: HPB@frys.com
V: 510.278.7238

RESPONSE TO COMMENTS: FRIENDS OF SAN LORENZO CREEK

Dated February 16, 2015

Response 1

Chapter 4, **Environmental Consequences and Mitigation**, of the Draft Environmental Assessment (EA) includes an analysis of the Proposed Action and No Action Alternative on downstream portions of Sulphur Creek. Several additional alternatives were considered in **Chapter 2**, **Alternatives.** However, as discussed in **Chapter 2, Alternatives,** these additional alternatives did not fully meet the project purpose and need and therefore were not carried forward for detailed analysis in the **Chapter 4**, **Environmental Consequences and Mitigation** portion of the EA.

Response 2

Chapter 4, Environmental Consequences and Mitigation, of the Draft EA identifies impacts and mitigation measures associated with the implementation of the Proposed Action. The Proposed Action is to enhance safety at Hayward Executive Airport by making physical modifications to the Air Operations Area in the areas between the Runway Safety Areas to protect aircraft from damage and aircraft passengers from injury when an aircraft veers off a runway, and reduce wildlife habitat in the Air Operations Area. It is beyond the scope of this EA to analyze potential Sulphur Creek corridor habitat improvement projects that are unrelated to addressing environmental effects associated with implementation of the Proposed Action. The specific comments indicated by the commenter as being comments 1.1 through 1.5 are addressed in the responses to comments 3 through 7 of this document.

Response 3

As discussed in Response 2 above, it is beyond the scope of this EA to analyze potential Sulphur Creek corridor habitat improvement projects that are unrelated to addressing environmental effects associated with implementation of the Proposed Action. An existing spillway on Sulphur Creek operated by the Alameda County Flood Control District currently restricts the upstream movement of fish and other aquatic organisms. The elevation change at this spillway serves to help protect the Hayward Executive Airport from flooding during extreme high tides or extreme high tides combined with storm surges. The Proposed Action would not result in conditions that would further impede upstream movement of fish and other aquatic organisms when compared to existing conditions because upstream movement is already precluded by the existing spillway. The pictures provided below show the existing spillway and its location. Since the Proposed Action does not further restrict upstream fish passage or movement of other aquatic organisms from the area below the spillway when compared to existing conditions, no environmental mitigation regarding upstream movements of fish or aquatic organisms below the spillway is required.

Source: ESRI, 2013; RS&H, 2013 Prepared By: RS&H, 2013

0 625 1,250 2,500 Feet

Legend

Airport Property

Existing Sulphur Creek Culverts

Spillway Location

Sections to be Culverted

Open Sections of Sulphur Creek

Response 4

Under existing conditions, Sulphur Creek extends for approximately 1,450 linear feet between Taxiway A and Taxiway Z, of which 900 linear feet Sulphur Creek is in underground culverts and 550 linear feet of Sulphur Creek is above ground. Under the Proposed Action, the 550 linear feet of Sulphur Creek currently above ground between Taxiway A and Taxiway Z would be placed in underground culverts. The Draft EA stated this is a potentially significant impact that would be reduced to a not significant level by mitigating for this potential impact and providing alternative stream channel or other aquatic habitat.

The commenter expressed concern that placing this additional 550 feet of Sulphur Creek between Taxiway A and Taxiway Z below ground would create a significant break in the aquatic and riparian corridor and a significant barrier to the migration of aquatic and terrestrial animals. This potential environmental impact is discussed below.

The movement of aquatic and terrestrial animals through the airport along Sulphur Creek is already heavily affected by prior modifications to Sulphur Creek both on and off of Hayward Executive Airport. The movement of aquatic organisms from downstream portions of Sulphur Creek to the west of the Airport are precluded by the presence of the 9-foot tall spillway at the west edge of the Airport operated by the Alameda County Flood Control District, which serves to help reduce flooding on the Airport. Immediately to the east and upstream of the spillway, the Creek extends for approximately 800 linear feet in a concrete-lined channel, which includes two underground culverts of 80 linear feet and 120 linear feet, respectively. East of this area of Sulphur Creek is an unculverted, 90-linear foot section of the creek, and then an additional 635-linear foot underground section of Sulphur Creek. East and upstream of the 635-linear foot underground section of Sulphur Creek are in order from west to east, a 180-linear foot above ground section of Sulphur Creek, a 235-linear foot below ground section of Sulphur Creek, a 170-linear feet above ground section of Sulphur Creek, and a 300-linear foot below ground section of Sulphur Creek. Therefore, in the area of the proposed new culverts on Sulphur Creek, 1,370-linear feet of the total creek length of 2,400 linear feet is already underground.

Any aquatic organism that is using the portion of Sulphur Creek to be culverted as part of a transit route can only do so for a portion of the year, because Sulphur Creek is an intermittent waterbody that does not flow all year. (Note: **Section 3.3.8**. of the Draft EA has been updated in the Final EA to state that Sulphur Creek is an intermittent stream that flows part, but not all, of the year, instead of a perennial stream, which would flow year-round). Also, any aquatic organisms using Sulphur Creek as movement corridor from upstream to downstream must already be capable of moving through a 635-linear foot underground culvert to reach areas below the Airport. The addition of 550 linear feet of underground culvert to the existing underground culvert system in an area of Sulphur Creek that would already require any aquatic organism to traverse multiple underground culverts to reach it is not considered a significant impact. Terrestrial organisms would could to have the option of traversing the area above ground or using alternative routes. Therefore, the addition of 550 more feet of underground culvert would not represent a significant impact.

Response 5

Fish, wildlife, and plants that inhabit Sulphur Creek were discussed in **Section 3.3.3**, Fish, Wildlife and Plants of the Draft EA. The environmental effects of the Proposed Action are discussed in **Section 4.4** of the Draft EA. The Proposed Action would not have a significant impact on fish, wildlife, or plants. As mentioned in Response 3 above, the Proposed Action would not result in conditions that would further impede fish migration when compared to existing conditions because fish cannot traverse the spillway at the west end of the Airport,

which is designed to protect the Airport from flooding. As discussed in Response 2 above, it is beyond the scope of this EA to analyze potential Sulphur Creek corridor habitat improvement projects that are unrelated to addressing environmental effects associated with implementation of the Proposed Action.

Response 6
As discussed in the Draft EA **Chapter 2**, **Alternatives,** Alternatives 2 and 3, which included varying amounts of load bearing grates over Sulphur Creek, were initially considered as alternatives for the proposed project, but were eliminated from detailed consideration because those alternatives would continue to allow small wildlife to access the grated area, and could attract larger avian species that would be hazardous to aircraft operations. However, as discussed in **Chapter 2, Alternatives,** these alternatives did not meet the project purpose and need, and therefore, in accordance with the NEPA, were not carried forward for detailed analysis in the **Chapter 4**, **Environmental Consequences and Mitigation** portion of the EA. There is no requirement that alternatives that did not meet the purpose and need for the Proposed Action be evaluated in detail in the EA.

Response 7
See Responses 4, 5, and 6.

Response 8
See Responses 4, 5, and 6.

Response 9
It is not necessary to have site-specific information to make the reasonable assumption that if Hayward Executive Airport provides habitat for small rodents and other prey species that predatory birds that hunt those species will eventually find and hunt them on the airport. As large, predatory birds represent a potential wildlife-aircraft strike hazards, establishing or maintaining such habitat on an airport is inconsistent minimizing the risk of wildlife-aircraft strike hazards.

Response 10
As identified in **Section 4.10.3**, **Mitigation**, the Airport would restore or purchase stream channel and/or wetland habitat credit from an established mitigation bank, or identify an alternative mitigation measure to compensate for the losses of stream channel and wetland habitat at a minimum 1:1 ratio. The final mitigation requirements for wetlands and waters in Clean Water Act (CWA) jurisdiction will be established during the CWA Section 404 permit process. The order of mitigation preference would be conducted in accordance with U.S. Army Corps of Engineers regulation 33 CFR 332 *Compensatory Mitigation for Losses of Aquatic Resources* at 33 CFR 332.3 *General Compensatory Mitigation Requirements*. Agencies that have jurisdiction over the Sulphur Creek watershed would be consulted as part of the CWA Section 404 permitting process. In previous informal discussions with the Airport, the San Francisco Regional Water Quality Control Board has indicated their preference that mitigation for impacts to Sulphur Creek be in the form of daylighting upstream creek channels currently in underground culverts. Alternatively, the Airport could purchase mitigation credits, after an appropriate mitigation ratio was determined to offset wetland impacts. These credits would be purchased from an agency-approved wetland mitigation bank within the lowlands surrounding San Francisco Bay. For example, the Airport is within the agency-approved service area for the San Francisco Bay Wetland Mitigation Bank in Redwood Shores. The final wetland mitigation program would be subject to the review and approval by the regulatory agencies.

RESPONSE TO COMMENTS: MR. HOWARD BECKMAN
Dated February 17, 2015

Response 11

Because the requirements for NEPA and California Environmental Quality Act (CEQA) documentation are different and because the lead agencies are different for NEPA and CEQA documentation, the FAA and the City of Hayward agreed to prepare separate NEPA and CEQA documentation. The City of Hayward anticipates preparing an Initial Study and Mitigated Negative Declaration to comply with CEQA.

RESPONSE TO COMMENTS: MR. HOWARD BECKMAN
Dated February 16, 2015

Response 12

Public notice and participation has been conducted in accordance with FAA Order 1050.1E: *Environmental Impacts: Policies and Procedures*. The public comment period extended from January 16, 2015 to February 17, 2015.

Response 13

The Draft EA was made available for the public comment period that extended from January 16, 2015 to February 17, 2015 to provide agencies, organizations, and individuals an opportunity to comment on the Proposed Action.

Response 14

A detailed evaluation of the various alternatives to meet the purpose and need of the project was provided in **Chapter 2**, **Alternatives**, of the Draft EA. In addition, a detailed analysis of the impacts associated with the only alternative that met the purpose and need (i.e., the Proposed Action) was provided in **Chapter 4**, **Environmental Consequences and Mitigation**, of the Draft EA.

Response 15

Chapter 5, **Consultation and Coordination**, of the Draft EA outlines the scoping and early agency notification process and dates, consultation with tribal communities, and information regarding the public review period for the EA. The efforts to inform agencies and the general public are in compliance with FAA Order 1050.1E: *Environmental Impacts: Policies and Procedures*. The public comment period extended from January 16, 2015 to February 17, 2015.

Response 16

The comments regarding the organization of the Draft EA are noted. The organization of the Draft EA follows FAA guidance on preparing NEPA documentation. The efforts to inform agencies and the general public are in compliance with FAA Order 1050.1E: *Environmental Impacts: Policies and Procedures*. The public comment period extended from January 16, 2015 to February 17, 2015.

Response 17

See Response 11.

Response 18

Chapter 1, **Purpose and Need**, of the Draft EA provides a detailed discussion of the Purpose and Need for the Proposed Action.

Response 19

Chapter 1, **Purpose and Need**, of the Draft EA provides a detailed discussion of the Purpose and Need for the Proposed Action. The City of Hayward proposed to implement the recommendation of the FAA Runway Safety Action Team to eliminate the hazard posed by the uncovered drainage ditches currently located adjacent to the Runway Safety Area (RSA) of Runway 10L-28R. As neither the Proposed Action, nor the No Action Alternative evaluated in this EA would change the existing RSAs, a detailed evaluation of prior decisions that established the current RSA dimensions at Hayward Executive Airport is not relevant to the evaluation of the environmental impacts of the Proposed Action or the No Action Alternative, and is therefore not included in the EA.

Response 20

See Response 19.

Response 21

It appears the commenter is requesting that the EA assess the relative Wildlife-Aircraft Strike Hazard potential of birds that are attracted to temporary ponded areas at Hayward Executive Airport in comparison to the Wildlife-Aircraft Strike Hazard potential of birds that occur in the general vicinity of Hayward Executive Airport. The commenter further requests that specific numbers of birds attracted to ponded areas on the airport be documented. FAA Advisory Circular (AC) 150/5200-33B *Hazardous Wildlife Attractants on or Near Airports,* identifies that airports should strive to obtain a separation distance of 10,000 feet between hazardous wildlife attractants and aircraft operations areas. FAA AC 150/5200-33B explains that the basis for this criteria is that 78 percent of Wildlife-Aircraft strikes occur with 1,000 feet above ground level and 90 percent of Wildlife-Aircraft Strikes occur within 3,000 feet above ground level. Therefore, any concentrations of birds or other wildlife designated as “hazardous wildlife in FAA AC 150/5200-33B within 10,000 feet of Hayward Executive Airport would be of concern. While the Hayward Executive Airport is developing a Wildlife Hazard Assessment to assess numbers of birds present on the airport, sufficient information regarding the general hazards that birds present to aircraft at airports is available to provide a reasonable basis to proceed with this project. The differentiation of the specific number of birds attracted to ponding on the airport as opposed to birds present in the general vicinity of Hayward Executive Airport would be difficult and expensive to obtain, and is not necessary to make a reasonable decision.

Response 22

Occasionally, debris builds up at the mouth of a culvert, particularly during storm events when debris is washed into Sulphur Creek. With implementation of the Proposed Action, six culvert openings will be eliminated, including three openings on the upstream (east) side of the culverts that would be subject to blockage during storm conditions. Under the No Action Alternative, these culvert openings would remain and would still be subject to potential debris blockages. Thus, the Proposed Action would alleviate the existing problem associated with debris blockages by reducing the number of places blockages could occur.

Response 23

As stated in **Section 4.10.3**, **Mitigation** in the Draft EA, the Airport would restore or purchase stream channel and/or wetland habitat credit from an established mitigation bank, or identify an alternative mitigation measure to compensate for the losses of stream channel and wetland habitat at a minimum 1:1 ratio. Also see Response 10.

July 27, 2015

Federal Aviation Administration
c/o Doug McNeeley, Manager
Hayward Executive Airport
20301 Skywest Drive
Hayward 94501

Hand Delivery

Herewith are my comments on the final "Environmental Assessment: Hayward Executive Airport Runway Safety Enhancement Project," dated "June 2015".

1 As with the draft EA, this final EA was not distributed to the public until the first day of the comment period (June 26) and without prior notice. No street address or e-mail address for the FAA office responsible for receiving comments was provided in the instructions printed on the inside cover of the final EA. These circumstances thus greatly foreshortened the effective time available to ordinary citizens to study, prepare, and deliver comments on the final EA. Even if these circumstances comply with the minimum requirements or guidelines of NEPA, they reflect a lack of sensitivity to (or even interest in) real-world public outreach. When these same criticisms were directed to publication of the draft EA, the third-party consultant that prepared the EA responded with the stubborn assertion that "efforts to inform agencies and the general public are in compliance with FAA Order 1050.1E."

Most of the consultant's responses to my written comments on the draft EA (contained in a letter dated Feb. 16, 2015) are nonresponsive to the substance of my comments, amounting to defensive, repetitive assertions that the draft EA is fine as is.

2 Responses #21 and #22 respond somewhat to my original questions, but the responses are dismissive of the issues raised (the extent to which ponding represents a significant risk to flight operations, and why the radical solution of further enclosing Sulphur Creek is the only practical solution to vegetation and debris buildup at the openings to existing culvert segments). These issues are particularly important inasmuch as the risk of existing open creek segments to take-off/landing operations remains nonspecific and unquantified in the EA.

I look forward to application of the more substantial evidentiary standards of the California Environmental Quality Act to the proposed project.

Howard Beckman

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RESPONSE TO COMMENTS: HOWARD BECKMAN

Dated July 27, 2015

Response 1

The steps to submit comments were defined in the various public newspaper ads posted as part of the public draft EA availability notice. The process to submit comments remained unchanged for the Final EA comment process. Commenters were mailed personal copies of the EA in order to expedite review of the EA. Public and agency outreach was conducted in accordance with FAA Order 1050.1E.

Response 2

A Runway Safety Action Team (RSAT) recommended that "the Airport take immediate steps to eliminate the hazard posed by the drainage ditches currently located adjacent to the runway safety area for Runway 10L-28R". The recommendations of the RSAT team form the basis for the need for the Proposed Action. The Proposed Action was recommended by the RSAT Team in an effort to avoid potential damage to aircraft that veer off the runways at HWD, while improving drainage, and reducing habitat for wildlife hazardous to air operations. This is outlined in the first chapter of the EA in **Section 1.3**, **City's Purpose and Need**.

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