APPENDIX B

Cultural Resources Assessment

ARCHAEOLOGICAL INVENTORY SURVEY

Hayfork Airport Improvement Project, c. 78.6-acres, Trinity County, California.

Prepared for

Federal Aviation Administration
San Francisco Airports District Office
831 Mitten Road
Burlingame, CA 94010

Author

Sean Michael Jensen, M.A.

Keywords *for Information Center Use:*
Archaeological Inventory Survey, 78.6-acres, Trinity County, CEQA/NHPA, USGS Hayfork, Ca. 7.5' Quad., No Historic Properties/Significant Historic Resources/Unique Archaeological Resources.

November 2, 2010

ABSTRACT

This report details the results of an archaeological inventory survey for the proposed Hayfork Airport development project involving 78.6 acres within the overall 122 acres comprising the Hayfork/Trinity County Airport, in Hayfork, Trinity County, California. The Area of Potential Effect (APE) consumes the western portion of the overall airport property. The proposed action involves: extending the existing taxiway to the full length of the runway; constructing a culvert structure where the taxiway extension crosses Kingsbury Gulch; grading and clearing the taxiway safety area on either side of the taxiway extension; and grading and clearing the runway safety area 240' from the west end of Runway 7-25 (see Figure 2).

According to agency definitions, the proposed action constitutes an "undertaking" per federal definitions, which could adversely affect various types of resources located within the project's Area of Potential Effect (APE). In this case, the APE consists of the 78.6-acre portion of the airport property.

Trinity County will receive funding to implement the project from the Federal Aviation Administration (FAA). Cultural studies must therefore comply with federal guidelines, including in particular Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR Part 800).

To achieve agency compliance, the present inventory included a detailed search of all records and documents relevant to cultural resources available at the Northeast Information Center of the California Historical Resources Information System, CSU-Chico, consultation with the Native American Heritage Commission (NAHC) and Native American individuals, groups and tribes listed by the NAHC. The search of available records and review of relevant documents was followed by intensive pedestrian survey of all of the project area.

Neither the pedestrian survey, existing records at CSU-Chico, consultation with tribal representatives, nor consultation with the Native American Heritage Commission yielded any information concerning prehistoric sites or features, traditional use areas or Sacred Land listings within or adjacent to the project area.

During the pedestrian survey, scattered waste rock, possibly associated with past mining, was observed throughout portions of the APE. A thorough inspection of the entire APE failed to identify associated artifacts or additional mining-related or other historic features. The feature represents an historic Isolate, and was so recorded on a DPR-523 form. Isolates are categorically excluded as historic properties and are thus not eligible or potentially eligible for inclusion on the National Register of Historic Places.

Based on the findings of the present archaeological inventory, no historic properties will be affected by the undertaking, as presently proposed. Consequently, archaeological clearance is recommended for the Hayfork Airport Development Project, with a general provision for immediate consultation in the event of any inadvertent discovery of previously unidentified cultural material, including human remains or burials.

Contents

ATTACHMENTS

1. INTRODUCTION

Project Background

This report details the results of an archaeological inventory survey for the proposed Hayfork Airport development project involving 78.6 acres within the overall 122 acres comprising the Hayfork/Trinity County Airport, in Hayfork, Trinity County, California. The Area of Potential Effect (APE) consumes the western portion of the overall airport property (see Figures 1 and 2). The proposed action involves extending the existing taxiway to the full length of the runway; constructing a culvert structure where the taxiway extension crosses Kingsbury Gulch; grading and clearing the taxiway safety area on either side of the taxiway extension; and grading and clearing the runway safety area 240' from the end of Runway 7 (Figure 3).

According to agency definitions, the proposed action constitutes an "undertaking" per federal definitions, which could adversely affect various types of resources located within the project's Area of Potential Effect (APE). In this case, the APE consists of the 78.6-acre portion of the airport property.

Trinity County will receive funding to implement the project from the Federal Aviation Administration (FAA). Cultural studies must therefore comply with federal guidelines, including in particular Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR Part 800).

Location

The Hayfork Airport development project totals 78.6 acres in Hayfork, California. The APE is situated within the western and southern portion of the overall airport property. Lands affected are located within portions of Sections 11 & 12 of Township 31 North, Range 12 West, as shown on the USGS Hayfork, California, 7.5' Series Quad.

A substantial portion of land in this area of Trinity County was intensively mined from the earliest days of the gold rush through the early 1960's. Since then, the area has undergone residential and related development, and construction of infrastructure, including construction of the existing airport. Collectively, these activities have substantially impacted both prehistoric and historic period sites and features within and near the APE. Notwithstanding these impacts, the project area appeared to contain, on the basis of map review and the results of previous archaeological survey, lands ranging from moderate to high sensitivity for the presence of important and well-preserved cultural resources.

Regulations

This archeological survey was conducted in order to locate and evaluate cultural resources, in compliance with the following federal regulations: Section 106 of the National Historic Preservation Act of 1966 and its amendments; implementing regulations of Section 106 (36 CFR Part 800); Section 101 (b)(4) of the National Environmental Policy Act; the Archaeological Resources Protection Act; the Council on Environmental Quality regulations

(Title 40, Code of Federal Regulations Parts 1500, 1508); FAA Order 1050.1E (Policies and Procedures for Considering Environmental Impacts); and FAA Order 5050.4B. Compliance with Section 106 of the NHPA requires completion of projects in conformity with the standards, guidelines, and principles in the Advisory Council's Treatment of Archaeological Properties: A Handbook (1980), and Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines (1983).

Methods

Based on the above-referenced rules, regulations and laws, the following specific tasks were considered an adequate and appropriate Scope of Work for the present archaeological inventory:

- Conduct a records search at the Northeast Information Center of the California Historical Resources Information System at CSU-Chico. The goal of the records search is to determine (a) the extent and distribution of previous archaeological surveys, (b) the locations of known archaeological sites and any previously recorded archaeological districts, and (c) the relationship between known sites and environmental variables. This step is also designed to ensure that, during subsequent field survey work, all significant/eligible cultural resources are discovered, correctly identified, and properly interpreted.

- Conduct a complete-coverage pedestrian survey of the APE. The purpose of the pedestrian survey is to ensure that previously recorded sites identified during the records search and consultation are re-located and eligibility evaluations updated on the basis of existing conditions vis-à-vis site integrity and condition. For previously undocumented sites discovered, the field survey would involve formally recording these on State DPR-523 forms. For both previously identified and newly identified sites, the level of field work would be sufficient to recommend measures to avoid, minimize or mitigate adverse effects of the undertaking to any sites recommended eligible or potentially eligible for the National Register of Historic Places.

- Upon completion of the records search, consultation and pedestrian survey, prepare an archaeological inventory survey report that identifies project effects and that includes recommendations for treatment of eligible or potentially eligible (or significant) properties that might be affected.

The remainder of the present document constitutes the final report for this project, detailing the results of the records search, consultation and pedestrian field survey and providing recommendations for treatment of historic properties that could be affected. All field survey procedures followed guidelines provided by the State Historic Preservation Office (Sacramento) and conform to accepted professional standards.

2. EXISTING CONDITIONS

Several information sources were considered relevant to evaluating the types of sites and site distribution that might be encountered within the project area. The information evaluated includes data maintained by the Northeast Information Center (CSU-Chico), consultation with the Native American Heritage Commission (NAHC) and Native American representatives on the NAHC contact list, and published and unpublished reports and documents relevant to regional prehistory, ethnography, and early historic developments.

Northeast Information Center Records

The records of the Northeast Information Center (CSU-Chico) were examined for any existing recorded prehistoric or historic sites and previous survey (I.C. File No. W09-115, dated November 11, 2009). These records document the following conditions for the APE and adjacent lands:

Previous Survey: A small portion of the property has been subjected to formal survey by a professional archaeologist. Vaughan (2002) prepared an ASR and HPSR for the proposed Hayfork Creek Bridge Replacement Project (Report # 4787) which involved lands along Oak/Bridge Street immediately adjacent to the east end of the present APE. Two historic-era sites and the Hayfork Creek Bridge were identified as historic resources, but all three of these are situated outside of the present APE, and will not be affected by the project, as presently proposed.

Recorded Prehistoric and Historic Sites: No prehistoric sites have been recorded within the project area. As noted above, three historic-period sites (CA-TRI-1894-H, CA-TRI-1895-H and CA-TRI-1934-H) have been recorded north and/or east of the present APE.

Other Sources Consulted

In addition to examining records maintained by the Northeast Information Center, the following sources were also reviewed by the Information Center, or separately:

- The National Register of Historic Places (1986, Supplements to 12/08).
- The California Register of Historical Resources (2008).
- The California Inventory of Historic Resources (State of California 1976).
- The California Historical Landmarks (State of California 1996).
- The California Points of Historical Interest (May 1992 and updates).
- The Historic Property Data File and Determinations of Eligibility (OHP 2008).
- GLO Plats and Historic County Maps.
- The Native American Heritage Commission (NAHC) re. Sacred Lands, and individuals and groups identified on the NAHC contact list (discussed below under ***Native American Consultation***).
- Existing published and unpublished documents relevant to prehistory, ethnography, and early historic developments in the vicinity. These sources, reviewed below,

provided a general cultural context by means of which to assess likely site types and distribution patterns for the project area.

Prehistory: One of the earliest clearly dated contexts for human occupation in north central California is from site CA-SHA-475 located north of Redding on Squaw Creek, where a charcoal based C-14 date suggests initial Native American presence within this area around 6,500 years ago. Continuous use of the region is indicated on the basis of evidence from this and other regional sites, particularly within the Hayfork Valley and throughout the Trinity River region. Most of the artifactual material dating to this early time period suggests cultural affiliation with other sites excavated within the Chimariko people's territory– the presence of large wide-stemmed projectile points and manos and metates being the most prominent and distinctive artifact types represented. The possibility exists that this early culture represents *Hokan*-speaking peoples who were also ancestral to those who subsequently expanded into the southern Cascade, the southern Klamath, and the North Coast Range near Hayfork.

Sometime around AD 200-400, the first major disruption of this early California culture is believed to have occurred. Arriving ultimately from southern Oregon and the Columbia and Modoc Plateau region and proceeding down the major drainage systems (including the Feather, Yuba and American Rivers), Penutian-speaking peoples began arriving in and occupying much of the Sacramento Valley floor. Presumably introduced by these later arrivals were more extensive use of bulbs and other plant foods, animal and fishing products more intensively processed with mortars and pestles, and perhaps the bow and arrow and associated small stemmed- and corner-notched projectile points. In the northernmost Sacramento Valley, and the Trinity River and Hayfork regions, the so-called Shasta (archaeological) Complex represents the material culture record of the local Penutian speakers. Generally similar archaeological expressions also define the Penutian-speaking occupants of the northern Sacramento Valley around Redding, and the Wintu ancestors who occupied the Hayfork region.

Ethnography: As noted above, the project area is located within territory occupied by the Wintu (LaPena 1978: Figure 1). These Penutian-speaking peoples occupied the drainages of the northern Sacramento Valley and lands to the north and west. The Hayfork Wintu occupied the lower Trinity River watershed to about Big Bar, and well as the upland areas surrounding Hayfork Creek south to South Fork Mountain. Villages were frequently located on flats adjoining streams, and were inhabited mainly in the winter as it was usually necessary to go out into the hills and higher elevation zones to establish temporary camps during food gathering seasons (i.e., spring, summer and fall).

As with all northern California Indian groups, economic life for the Wintu revolved around hunting, fishing and the collecting of plant foods. The Wintu were very sophisticated in terms of their knowledge of the uses of local animals and plants, and of the availability of raw material sources which could be used in manufacturing an immense array of primary and secondary tools and implements. Unfortunately, only fragmentary evidence of the material culture of these people remains, due in part to perishability, and in part to the impacts to archaeological sites resulting from later (historic) land uses.

Based on the results of previous archaeological survey work in the general area, the potential range of prehistoric site types included the following:

- Surface scatters of lithic artifacts and debitage associated with midden accumulations and other surface features (i.e., circular housepit depressions, mortar holes) resulting from protracted occupation along the margins of stream channels, particularly where such channels merge with one another.
- Surface scatters of lithic artifacts and debitage without midden accumulations, resulting from short-term occupation and/or specialized economic activities.
- Bedrock milling stations, including mortar holes and metate slicks, in areas where suitable bedrock outcrops or large boulders are present and exposed.
- Cemetery areas, usually but not always associated with habitation sites.
- Petroglyphs.
- Isolated finds of aboriginal artifacts and flakes.

Clearly it was not expected that all of these sites would be encountered within the present project area, particularly considering the degree of prior disturbance coupled with the negative findings of earlier survey. Rather, these sites were considered the most likely *types* to be found if any sites were discovered at all.

Historic Context: Recorded history in the general vicinity begins with the attempts of Spanish colonists to explore parts of California beyond the coastal zone. Gabriel Moraga's expedition was undertaken in 1806, with additional incursions occurring through the 1840's. European Americans began arriving in the mid-1820's, most notably with the trapping expeditions of Jedediah Strong Smith. Smith reached Hayfork Creek in 1828, and continued down the South Fork of the Trinity River before reaching the Klamath River and the Pacific. However, the European Caucasian incursion with the greatest impact on Native American population and culture occurred immediately following the discovery of gold at Coloma in 1848, which initiated the Gold Rush of 1849.

Major Pierson B. Reading's discovery of gold on the Trinity River in 1848 resulted in a massive influx of miners to the region. Mining flourished throughout Trinity County during the coming decades and continues to play a role in the local economy.

The town of Hayfork was originally named Kingsbury, and established in 1851 by Mr. Kingsbury who owned a store and trading post in the area. E. M. George visited the Hayfork Valley in 1850, and established, along with other settlers, a number of ranches which successfully exploited the region's natural resources. Following these endeavors, numerous industries took root in the valley, including grist mills, lumber mills, hotels and various supporting commercial operations.

Native American Consultation

In conjunction with the records search for the present project, the Native American Heritage Commission (NAHC) was contacted regarding Sacred Land Listings. The NAHC indicated that there are no Sacred Land listings for the project area or adjacent lands (response dated December 8, 2009, copy attached). The contact list from the Native American Heritage

Commission included the following individuals and groups, all of whom were contacted and requested to supply any information they might have concerning prehistoric sites or traditional use areas within the project area:

1. Redding Rancheria, Redding, California
2. Round Valley Reservation/Covelo Indian Community, Covelo, California.
3. Wintu Tribe of Northern California, Redding, California.
4. Nor-Rel-Muk Nation, Weaverville, California.
5. Tsnungwe Council, Salyer, California.
6. Wintu Educational and Cultural Council, Hayfork, California.

To date, the only response has been from the Tsnungwe Council, who responded that the Hayfork Airport is not part of traditional Tsnungwe territory (See letter dated January 14, 2010, copy attached).

3. PEDESTRIAN FIELD SURVEY and FINDINGS

Survey Strategy

All of the project area was subjected to intensive-level pedestrian survey, accomplished by walking back and forth across the APE with transect spacing ranging between 10-15 meter intervals. In searching for cultural resources, the surveyor took into account the results of background research and was alert for any unusual contours, soil changes, distinctive vegetation patterns, exotic materials, artifacts, feature or feature remnants and other possible markers of cultural sites.

Field Work

Field survey for the present project was undertaken in November 2009 by Sean Michael Jensen. No special problems were encountered during the course of the pedestrian survey, and all survey objectives have been satisfactorily achieved.

General Observations

Field work identified the following general conditions within the project area. Disturbance to the ground surface and subsurface components has been substantial. Most of the property has been subjected to intensive disturbance associated with construction and ongoing maintenance of the Hayfork Airport. These ground disturbing activities include intensive grading and land re-contouring, construction of the runway, aprons, taxiways, placement of culverts along stream courses, construction of hangars and offices, and placement of buried and overhead utilities. Trinity County Department of Transportation files indicate that construction of the runway, taxiway, apron and culvert initiated in 1969. Lighting was initially installed in 1977 and updated in 2007. Hangars and the pilots lounge were constructed between 1980 and 1996.

Amorphous waste rock piles and scattered waste rock represent earlier disturbance within and immediately surrounding the APE. Finally, the 1951 USGS 15' map of the project area

depicts one structure situated near the west end of the APE. The structure does not appear on the 1982/1983 map, further indicating that the land area has been subjected to intensive (and relatively recent) disturbance.

Prehistoric Resources

No evidence of prehistoric presence or activity was observed anywhere within the project area. The level of disturbance to which all of the property has been subjected may best explain the absence of such cultural material.

Historical Resources

No historical cultural resources had been formally recorded or otherwise identified within, adjacent or close to the project area boundary per records of the Northeast Information Center at CSU-Chico.

As described above, during the present pedestrian survey, scattered waste rock was observed throughout portions of the APE. A careful examination of the entire APE failed to identify any associated artifacts, nor are there additional mining-related or other historic features located within the APE. The waste rocks, therefore, represent an historic Isolate, and were so recorded on a DPR-523 form submitted to the Northeast Information Center (copy of the Primary Record is attached).

Isolates are categorically excluded as historic properties and are thus not eligible or potentially eligible for inclusion on the National Register of Historic Places.

4. PROJECT EFFECTS

A project may have a significant impact or adverse effect on cultural resources/historic properties if the project will or could result in the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance or values of the resource would be materially impaired.

Based on the specific findings detailed above under ***Pedestrian Field Survey and Findings***, no historic properties are present within the project area and no historic properties will be affected by the undertaking, as presently proposed.

5. CONCLUSION

This report details the results of an archaeological inventory survey involving approximately 78.6 acres within the overall 122 acres comprising the Hayfork/Trinity County Airport, in Hayfork, Trinity County, California. The Area of Potential Effect (APE) consumes the western portion of the overall airport property. Proposed action involves extending the existing taxiway to the full length of the runway; constructing a culvert structure where the taxiway extension crosses Kingsbury Gulch; and grading and clearing the runway safety area at the end of Runway 7 and the taxiway safety area along the proposed taxiway extension.

Neither the pedestrian survey, existing records at CSU-Chico, FAA consultation with tribal representatives, nor consultation with the Native American Heritage Commission yielded any information concerning prehistoric sites or features, traditional use areas or Sacred Land listings within or adjacent to the project area.

During the pedestrian survey, scattered waste rock, possibly associated with past mining, was observed throughout portions of the APE. A thorough inspection of the entire APE failed to identify associated artifacts or additional mining-related or other historic features. The feature represents an historic Isolate, and was so recorded on a DPR-523 form. Isolates are categorically excluded as historic properties and are thus not eligible or potentially eligible for inclusion on the National Register of Historic Places.

Based on the findings of the present archaeological inventory, no historic properties will be affected by the undertaking, as presently proposed. Despite these negative findings, however, the following general provisions are considered appropriate:

1. ***Consultation in the event of inadvertent discovery of human remains***: In the event that human remains are inadvertently encountered during any ground-disturbing activity or at any time subsequently, State law shall be followed, which includes but is not limited to immediately contacting the County Coroner's office upon any discovery of human remains.

2. ***Consultation in the event of inadvertent discovery of cultural material***: The present evaluation and recommendations are based on the findings of an inventory-level surface survey only. There is always the possibility that important unidentified cultural materials could be encountered on or below the surface during the course of future stream bank restoration activities. This possibility is particularly relevant considering the constraints generally to archaeological field survey, and particularly where extensive past disturbance has occurred, as in the present case. In the event of an inadvertent discovery of previously unidentified cultural material, archaeological consultation should be sought immediately.

6. REFERENCES CITED and/or UTILIZED

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ARCHAEOLOGICAL INVENTORY SURVEY

Hayfork Airport Improvement Project,
c. 78.6-acres, Trinity County, California.

ATTACHMENTS

- Figure 1: Project Location Map
- Figure 2: Proposed Project Locations
- Figure 3: Proposed Taxiway Extension, Culvert, Runway and Taxiway Safety Area Locations
- DPR 523 for Isolate "Hayfork #1"

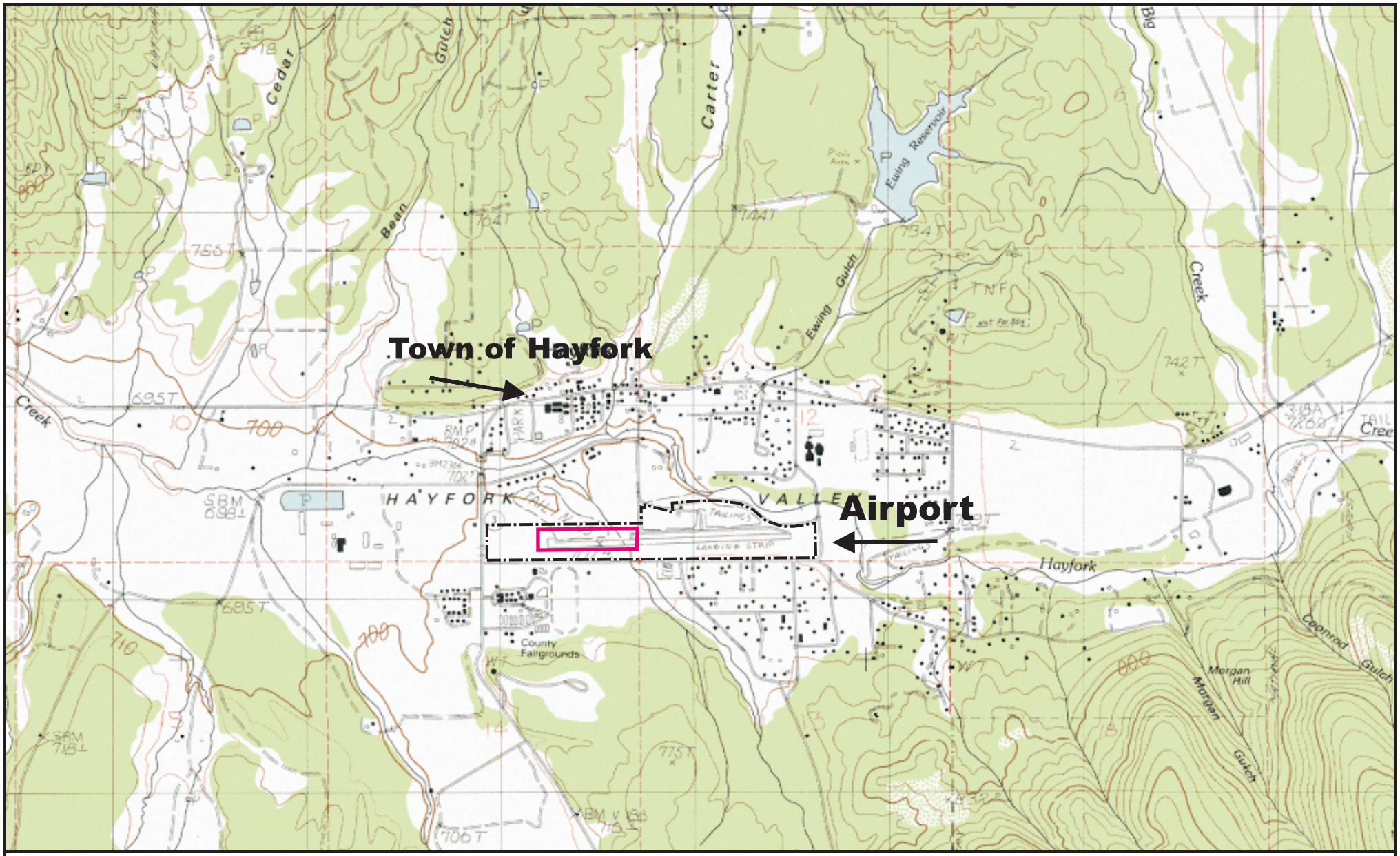


Figure 1
Project Location Map

Hayfork Airport

Figure 2

Proposed Project Locations

Taxiway Extension

Runway Safety Area and Taxiway Safety Area Grading

Culvert location

Hayfork Airport

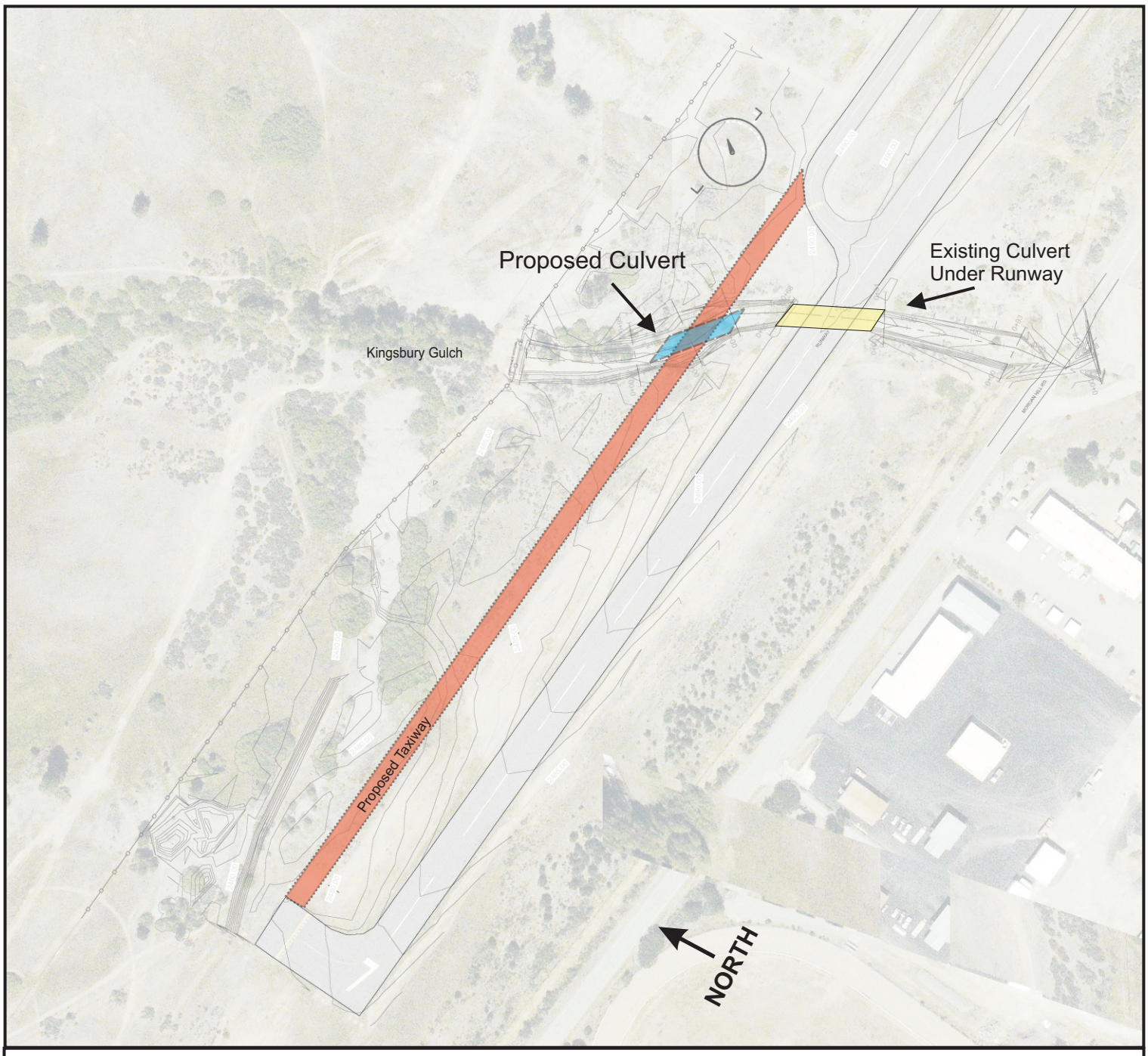


Figure 1-3
Proposed Taxiway Extension and Culvert Location

Image from Trinity County Road Department

Hayfork Airport

DUCO 118.75 119.35

Northeast Center of the California Historical Resources Information System

BUTTE, GLENN, LASSEN, MODOC, PLUMAS, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY

California State University, Chico
Building 25, Suite 204
Chico, California 95929-0377
Phone (530) 898-6256
Fax (530) 898-4413
neinfocntr@csuchico.edu

ACCESS AGREEMENT

I.C. File Number: W09-115

I, the undersigned, have been granted access to historical resources information on file at the Northeast Information Center of the California Historical Resources Information System.

(SJ) I understand that any CHRIS Confidential Information I receive shall not be disclosed to individuals who do not qualify for access to such information, as specified in Section III (A-E) of the CHRIS Information Center Rules of Operation Manual, or in publicly distributed documents without written consent of the Information Center Coordinator.

(SJ) I agree to submit historical Resource Records and Reports based in part on the CHRIS information released under this Access Agreement to the Information Center within sixty (60) calendar days of completion.

(SJ) I agree to pay for CHRIS services provided under this Access Agreement within sixty (60) calendar days of receipt of billing.

(SJ) I understand that failure to comply with this Access Agreement shall be grounds for denial of access to CHRIS Information.

Print Name: Sean Jensen Date: 11-19-09 Signature: Sean Michael Jensen

Affiliation: Genesis Society

Address: 7053 Mcloma Drive City/State/Zip: Paradise, CA 95969

Billing Address (if different):

Telephone: 530-680-6170 Fax: 530-876-8650 Email:

Purpose of Access: Project Planning

Reference (project title or #; Street Address): Hayfork Airport / Bruce Road

County: Trinity / Butte Township/Range/Section: T3N, R12W, Secs. 11+12 / T22N, R2E Secs. 19, 29-32

USGS 7.5' Quad: Hayfork / Chico

STAFF USE ONLY

Time:

IN: 10:00

OUT: 11:00

Ana Hoberlein
Information Center Staff

Backlog (√) N/A

In-House Fees:	1 hours @ $100.00/hour	$100.00
Staff Charges:	____ hours @ $40.00/hour	$____
Photocopy Charges:	525 copies @ $0.15/page	$78.75
	125	+ 19.35
Other:		$____
TOTAL:		$118.75

$ 119.35

*** THIS IS NOT AN INVOICE ***

Per invoice sent below

State of California -- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD - ISOLATE

Primary #:_____
HRI #:_____
Trinomial:_____
NRHP Status Code:_____
Other Listings#:_____

Review Code:_____ Reviewer:_____ Date :_____

 Common Name: "Hayfork #1"

P1. Other Identifier: "Hayfork #1".

P2. Location: Not Restricted.
P2a. County: Trinity.
P2b. USGS 7.5' Quad: Hayfork, California.
Date: 1995 (Provisional).
T31N, R12W, Portion of Sections 11 & 12.
P2c. Address: Unknown.
P2d. UTM: Zone 10: Easting: 484546 Northing: 4488485
P2e. Location From the intersection of State Route 3 and Hanger Lane, in the town of Hayfork, proceed easterly along Hanger Lane for approximately 0.5 miles to airport entrance. Isolate is located throughout the airport property.

P3a. Description: This isolate consists of mine waste rock scattered and distributed throughout much of the airport property. The airport was subjected to intensive and extensive grading and re-contouring initiating in 1969. Consequently, amorphous waste rock piles that may have once existed within the APE have been demolished and scattered throughout the property.

P3b. Resource Attributes: AH9 – Mines/quarries/tailings.

P4. Resources Present: Isolate. See attribute list above.

P5a: Drawing: No site sketch map prepared for this isolate.
P5b. Description of Photo: No photos taken.

P6. Date Constructed, Age and Sources: Historic. Not able to more definitively bracket time based on feature type present.

P7. Owner and Address: Unknown

P8. Recorded By: Sean M. Jensen. Genesis Society, 7053 Molokai Drive, Paradise, California 95969.

P9. Date Recorded: December 1, 2009.

P10. Survey Type: Pedestrian archaeological survey involving c. 78.6-acre project area, which consists of lands which have been subjected to intensive and extensive disturbance, for which airport improvements are proposed.

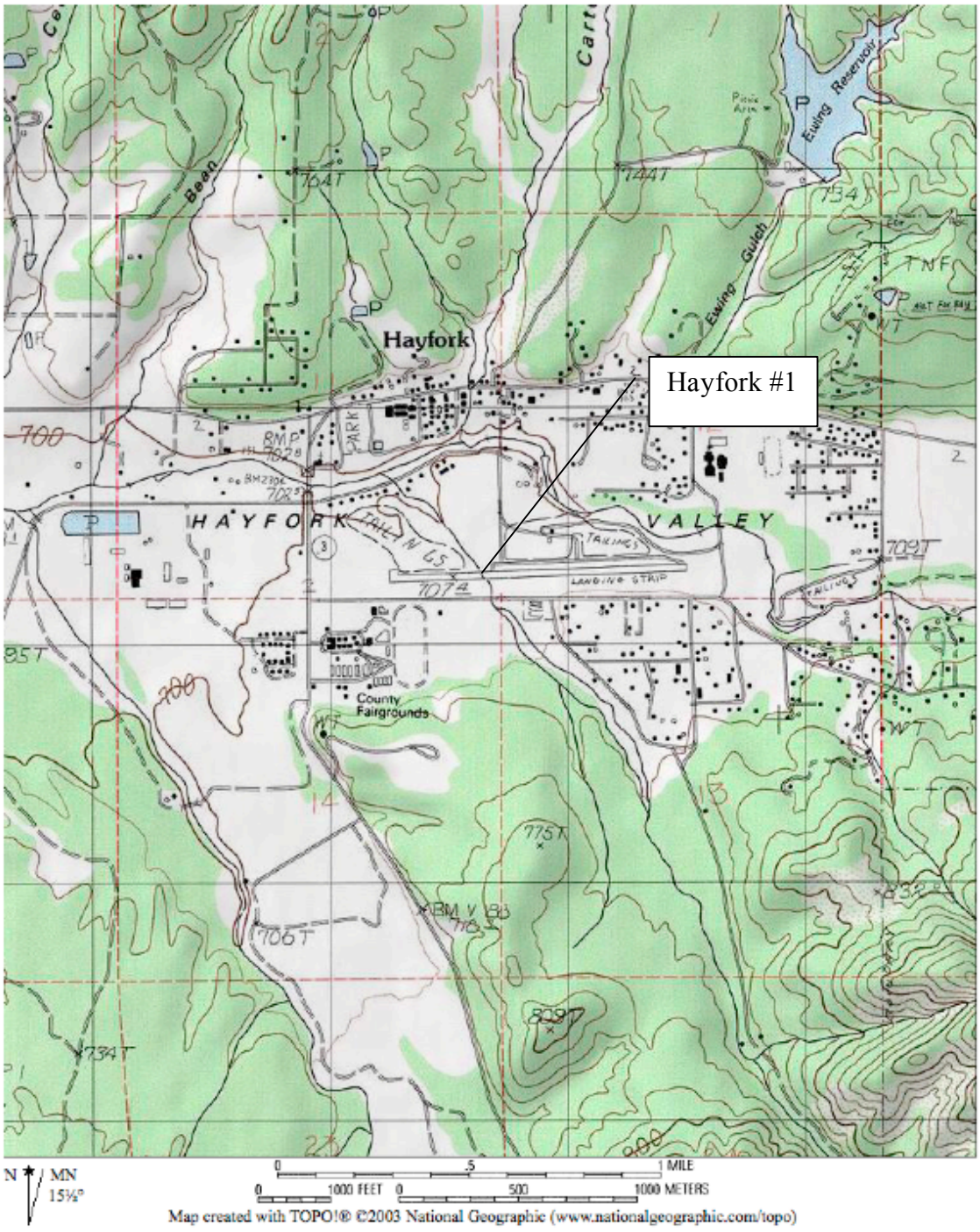
P11. Report Citation: "Archaeological Inventory Survey, Hayfork Airport Improvement Project, c. 78.6-acres, Trinity County, California." Report filed with the Northeast Information Center of the California Historical Resources Information System, CSU-Chico.

Attachments

Isolate Location Map: From USGS Hayfork, Ca., 7.5' Quad.

State of California -- The Resources Agency **Primary #:**_____
DEPARTMENT OF PARKS AND RECREATION

ATTACHMENT: Isolate Location Map, "Hayfork #1"



APPENDIX C

Wetland Delineation Report

WETLAND DELINEATION
FOR THE

±86-ACRE HAYFORK AIRPORT STUDY AREA

COMMUNITY OF HAYFORK, TRINITY COUNTY, CALIFORNIA

Prepared for:

TRINITY COUNTY DEPARTMENT OF TRANSPORTATION
31301 State Highway 3
P.O. Box 2490
Weaverville, CA 96093
Phone: (530) 623-1365

Prepared by:

north fork associates
110 Maple Street, Auburn, California 95603
(530) 887-8500

SEPTEMBER 29, 2010

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

WETLAND DELINEATION
FOR THE
±86-ACRE HAYFORK AIRPORT STUDY AREA

INTRODUCTION

On behalf of the Trinity County Department of Transportation, North Fork Associates delineated waters of the United States on the approximately 86-acre Hayfork Airport study area in the Community of Hayfork, Trinity County, California. The Hayfork Airport is located within the community of Hayfork, in Trinity County, California. The airport is framed by Hayfork Creek and State Route 3 to the north, State Route 3 to the west, Morgan Hill Road to the south, and Bridge Road to the east. This area corresponds to Sections 11 & 12 of Township 31 North, Range 12 West of the Hayfork, California USGS 7.5-minute topographic quadrangle. (Figure 1). The latitude and longitude of the approximate center of the site is 40.547147°north and 123.179294° west. The APN (Assessors Parcel Number) is 014-430-0800.

The elevation of the Hayfork Airport is 2,320 feet. Hayfork Creek, which is a tributary to the South Fork Trinity River, flows just north of the airport. Kingsbury Gulch, an intermittent tributary to Hayfork Creek, flows from south to north through the airport and through a box culvert system under the airport's only runway. An aerial photo of the study area is presented in Figure 2.

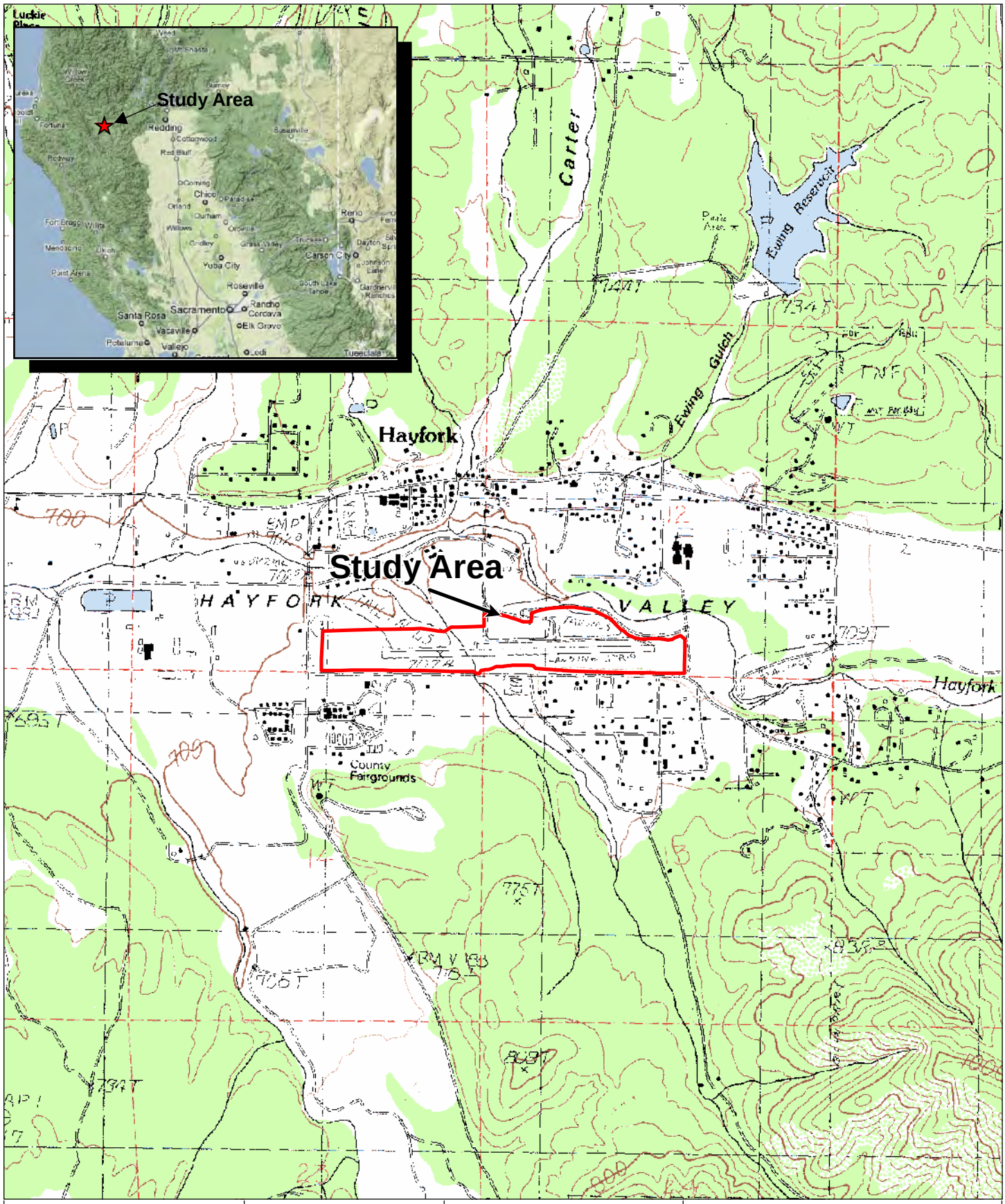
CONTACT INFORMATION

Applicant:
Trinity County Department of Transportation
31301 State Highway 3
P.O. Box 2490
Weaverville, CA 96093
Phone: (530) 623-1365
Contact: Janice Smith

Delineator:
North Fork Associates
110 Maple Street
Auburn, California 95603
Phone: (530) 887-8500
Contact: Jeff Glazner

METHODS

Waters of the United States were delineated by Jeff Glazner. The delineation was conducted according to the 1987 Corps Manual (U.S. Army Corps of Engineers 1987) and the Regional Supplement, Western Mountains, Valleys, and Coast Region (U.S. Army Corps of Engineers 2010). Information about soils, vegetation, and hydrology was recorded at 14 three-parameter data point locations. Data sheets are located in Appendix A.



north fork associates

N

0 1,000 2,000

Scale in Feet

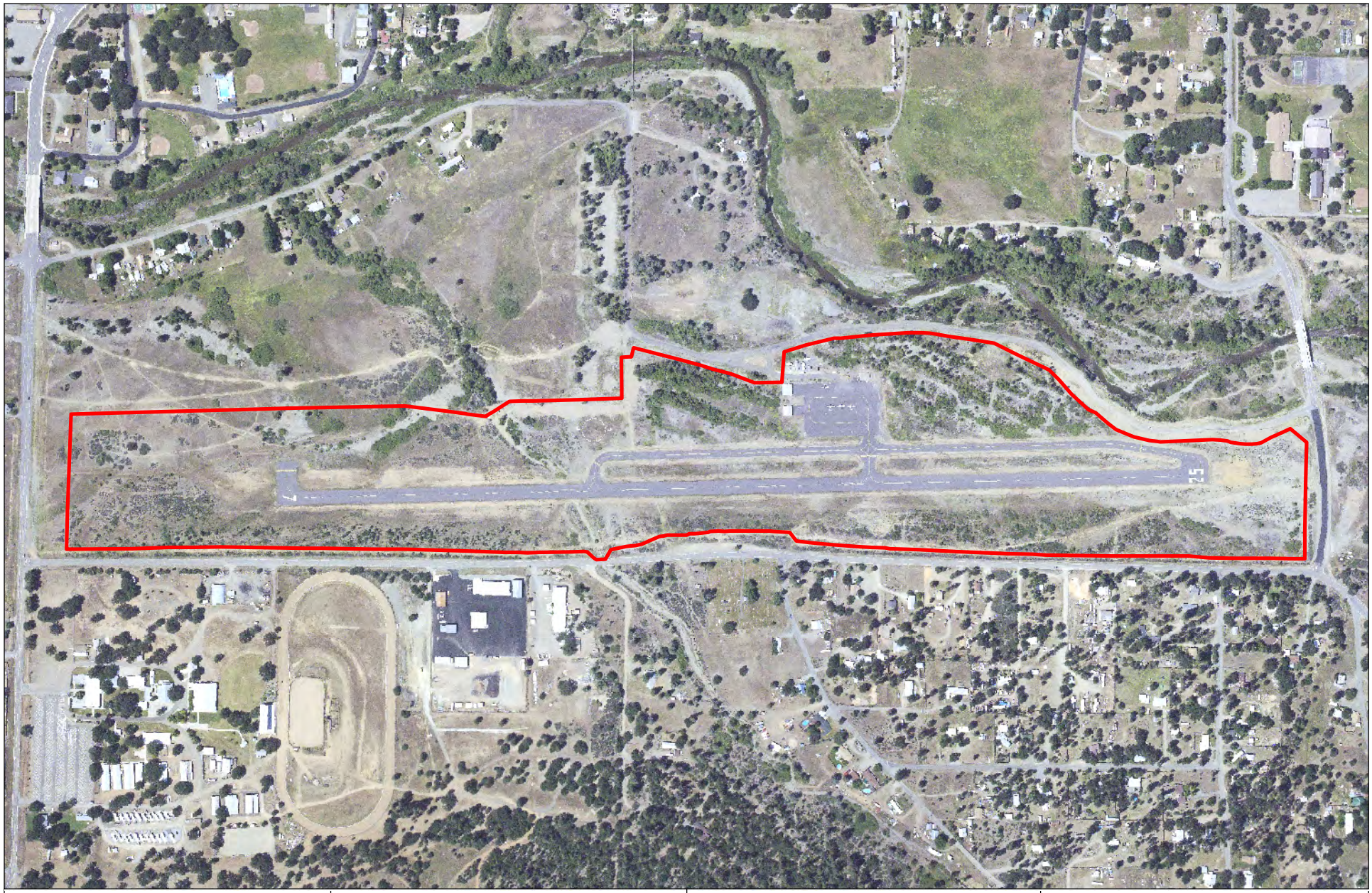
USGS Base Map: Hayfork, CA
7.5 minute topographic quadrangle
Sections: 11,12,13, & 14
Township: 31N
Range: 12W

Figure 1

SITE & VICINITY MAP

Hayfork Airport

Trinity County, California



north fork associates

N

0 150 300 600

Scale in Feet

Study Area (±86 acres)

Aerial Photo: October 2009 (Geoimagery)

Figure 2

AERIAL PHOTO

Hayfork Airport

Trinity County, California

Information on soils was obtained from the Natural Resources Conservation Service (NRCS, 2003). In the field, a Munsell Color (2000) chart was used to determine moist soil colors and analysis of soil from selected pits for evidence of redoximorphic features was performed. Plants important to the determination of wetland/upland boundaries were identified to species (as were most species on the property). Common plant names are used in this document and scientific names for all plants observed as well as wetland status can be referenced in Appendix B. Scientific names follow *The Jepson Manual* (Hickman 1993), as updated by the Jepson Interchange, an online database maintained by the University of California and Jepson Herbaria. The wetland status for species observed was taken from Reed (1988).

A Trimble GeoXH global positioning system (GPS) was used to obtain location information about data points, wetland areas, and other pertinent features. The GPS data were corrected in the office using the nearest available base station. We used Hayfork 7.5 minute USGS topographic map for topographic information and several areal photos. The primary aerial photo used was supplied by Geoimagery, taken in October 2009. ArcGIS was used to create the wetland delineation map. Appendix C contains a CD ROM with the electronic files in ArcView shape format.

RESULTS

Climate

The Hayfork, CA climate is hot and dry during summer and cool and wet during winter. The warmest month of the year is July with an average maximum temperature of 93.1 degrees Fahrenheit. The coldest month of the year is January with an average minimum temperature of 26.5 degrees Fahrenheit. The annual average precipitation at Hayfork is 33.3 inches. The wettest month of the year is January with an average rainfall of 6.2 Inches.

HAYFORK RANGER STN, CALIFORNIA (043859)

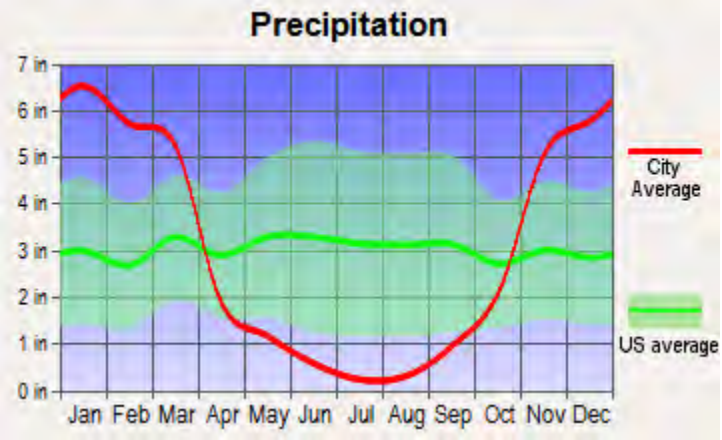
Period of Record Monthly Climate Summary

Period of Record : 4/ 1/1914 to 10/31/2006

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Avg Max. Temp (F)	49.9	55.0	61.6	67.0	75.0	83.7	93.1	92.6	84.9	74.7	60.5	49.6	70.6
Avg Min. Temp (F)	26.5	27.9	29.7	32.5	36.6	41.0	44.9	43.2	37.8	31.8	29.7	27.7	34.1
Avg Total Precip (in.)	6.18	5.05	3.74	1.84	1.17	0.61	0.20	0.27	0.68	2.06	4.84	6.69	33.33
Avg Tot Snowfall (in.)	9.5	2.9	1.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	1.0	4.6	20.4
Avg Snow Depth (in.)	2	1	0	0	0	0	0	0	0	0	0	0	0

Western Regional Climate Center, wrcc@dri.edu

Hayfork Annual Precipitation.

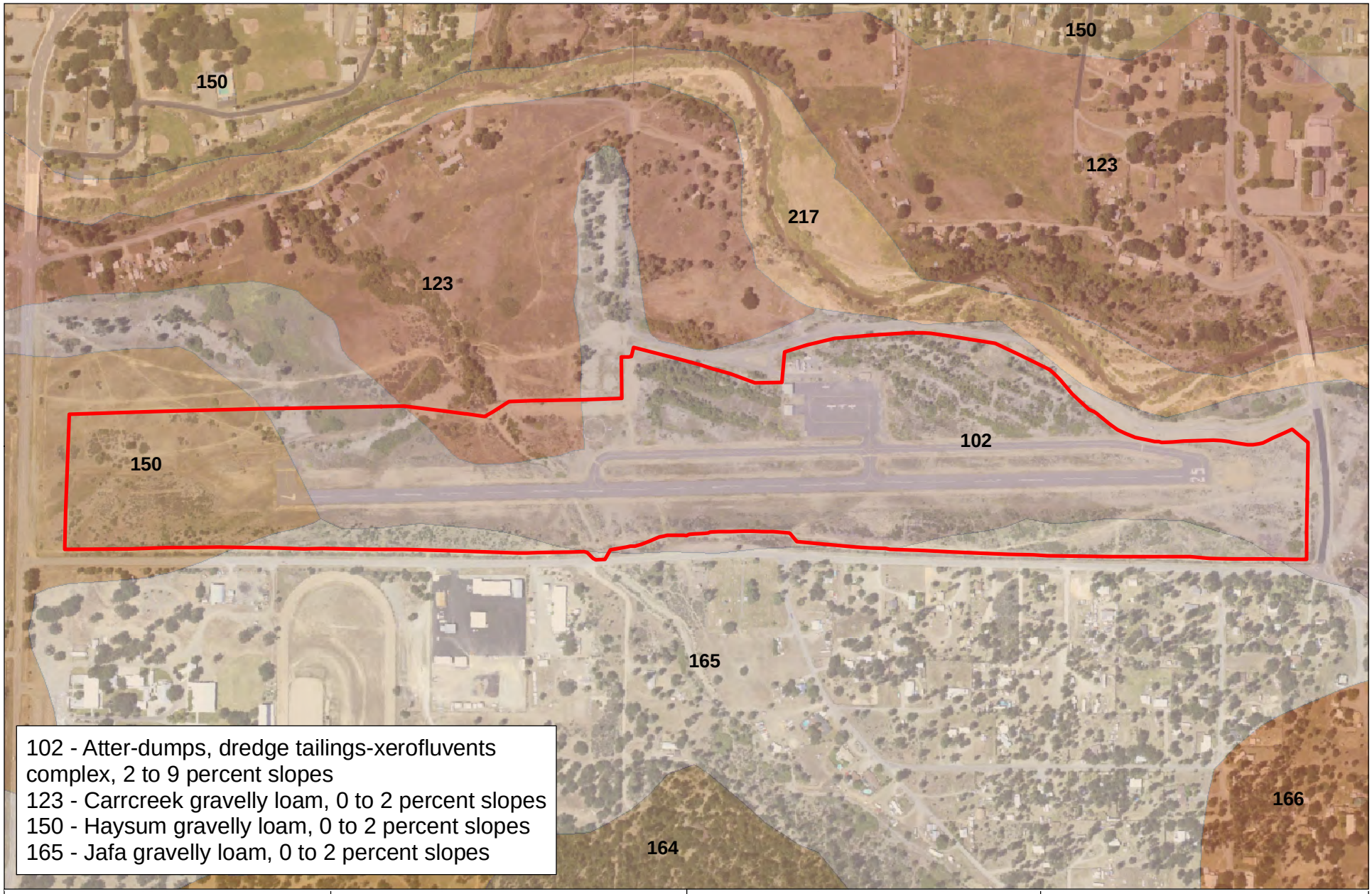


Source: http://www.city-data.com/city/Hayfork-California.html

Soils

Soils information was obtained from Natural Resources Conservation Service (NRCS, 2010). The query produced four mapped soils units within the Project Area boundaries (Figure 3). To evaluate whether hydric soils exist within the study area, we consulted the California List of Hydric Soils (http://soils.usda.gov/use/hydric/lists/state.html). Two of the soil units are conceded hydric (Atter-dumps and Carrcreek).

- 102, Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes (hydric)
- 123, Carrcreek gravelly loam, 0 to 2 percent slopes (hydric)
- 150, Haysum gravelly loam, 0 to 2 percent slopes (non-hydric)
- 165, Jafa gravelly loam, 0 to 2 percent slopes (non-hydric)



north fork associates

N

0 150 300 600

Scale in Feet

Legend

Study Area

Figure 3

SOILS MAP

Hayfork Airport

Trinity County, California

Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes

The majority of the Project Area is within this soil unit, including most of the dredges areas north of the runway. This mapped soil unit contains 50 percent Atter, 20 percent dumps, 15 percent xerofluvents and similar soils and the remaining have equal to less than 3 percent; riverwash, Weaverville, Haysum, Carrcreek, rock outcrop, mining ponds, Brownbear, and Brockgulch. The Atter series consists of very deep, somewhat excessively drained soils formed in recent cobbly alluvium from metamorphic rocks. The soils are on alluvial fans and low stream terraces in mountain valleys. Slopes are 0 to 30 percent. Mean annual precipitation is about 63 cm (25 in) and mean annual temperature is about 51 degrees F. The soils formed in recent mixed alluvium derived from metamorphic rocks. Mean annual precipitation is 40 to 101 cm (16 to 40 in). Seasonal snowfall is 30 to 61 cm (12 to 24 in). Frost-free season is 100 to 180 days.

This soils series complex is considered hydric for three of its components: xerofluvents, mining ponds, and riverwash. Hydric soil criteria for both xerofluvents and riverwash are soils that are frequently flooded for long duration or very long duration during the growing season. Mining ponds are considered hydric under the criteria that soils are frequently ponded for a long duration or very long duration during the growing season.

Carrcreek gravelly loam, 0 to 2 percent slopes

This soil unit is located within a small area surrounding Kingsbury Gulch in the northern project area. The Carrcreek series consists of very deep, well drained soils formed in alluvium weathered from mixed rocks. These soils are on stream terraces and alluvial fans. Slope is 0 to 5 percent. Mean annual precipitation is about 35 inches. Mean annual temperature is about 54 degrees F. The mean annual soil temperature is 52 to 59 degrees F. Elevation is 670 to 1,066 m (2,200 to 3,500 ft). Slopes are 0 to 5 percent. Mean annual precipitation is 76 to 101 cm (30 to 40 in). Snowfall ranges from 15 to 76 cm (6 to 30 in). The frost-free period is 9 to 130 days. Mean annual temperature is 10 to 13° C (50 to 57° F). It is a well drained soil with slow runoff and moderate permeability. It qualifies as a hydric soil in a depression or fan landform according to the NRCS.

Haysum gravelly loam, 0 to 2 percent slopes

This soil unit is located within a small portion of the western project area. The Haysum series consists of very deep, well drained soils on stream terraces and alluvial fans. These soils formed in alluvium weathered from mixed rocks. Slope ranges from 0 to 9 percent.

Jafa gravelly loam, 0 to 2 percent slopes

This soil unit is located within a small area along the southern boundary of the project area. The Jafa series consists of very deep soils formed from alluvial sediments under a mixed conifer-hardwood forest. They are mature, somewhat slowly permeable soils of moderate native fertility found on sloping terraces.

Hydrology

The last substantial rainfall of the 2010 rain year in the Hayfork area was on May 27th, when 0.58 inch of rain fell. Since then, there were only two days with measurable rain, June 2nd, 0.19 inch and June 3rd, 0.02 inch. It was hot and dry during our field delineation in mid-July.

The major hydrologic feature on the property is Kingsbury Gulch, which bisects the property flowing from south to north. Kingsbury Gulch flows into Hayfork Creek, about 1600 feet to the north. Active flow in Kingsbury Gulch occurs from the beginning of the wet season, usually in November, through May or early June. The stream is dry during the summer months and most of the fall. Localized and potentially isolated wetlands occur in some of the depressions left behind by historic mining (dredge hollow wetlands). No other drainages or notable water features exist in the study area.

Vegetation

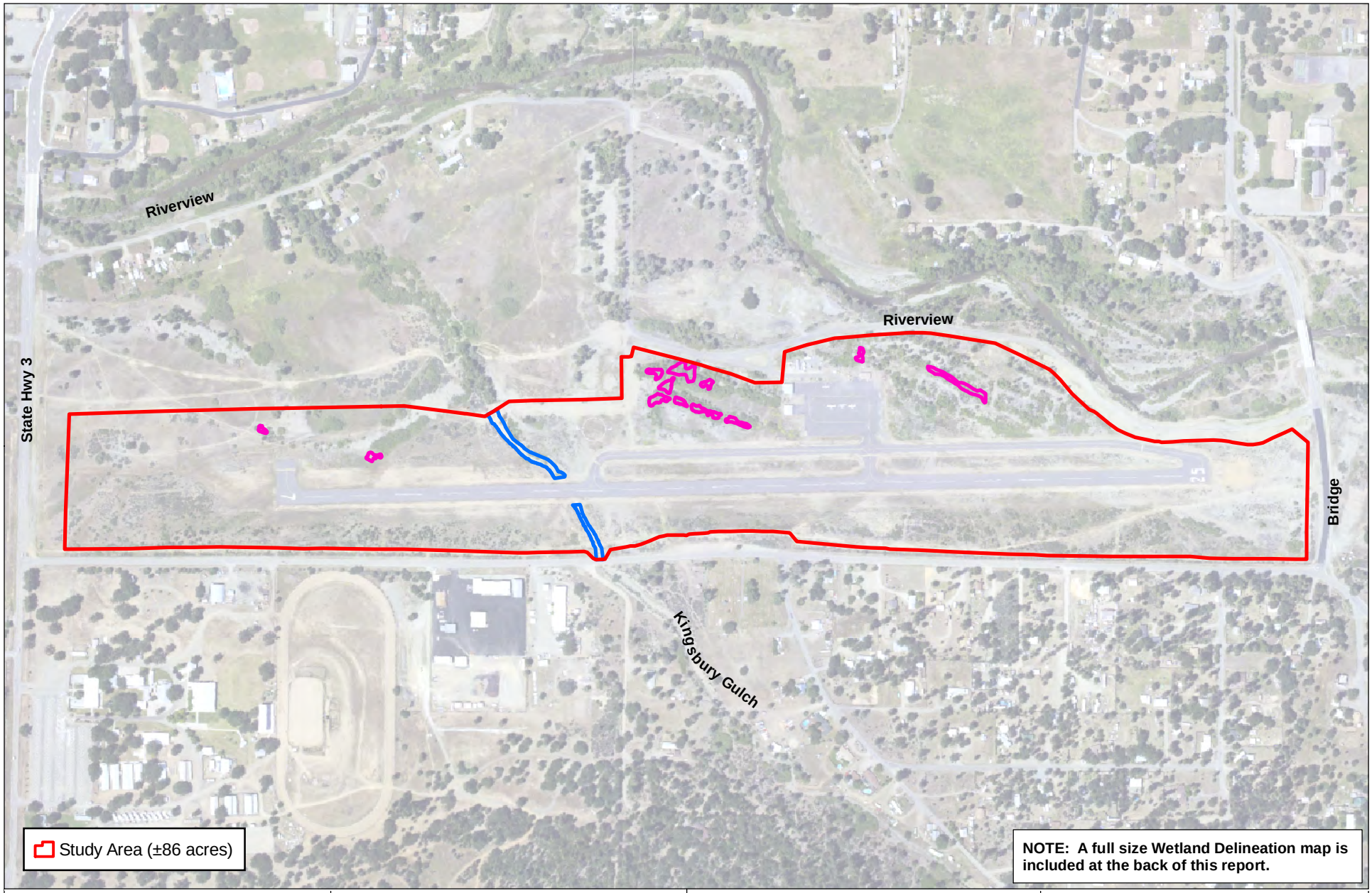
There are four primary vegetation communities in the study area; Ruderal, Chaparral/Scrub-Shrub, Riparian, and Seasonal Wetland (dredge hollow wetlands). The Ruderal vegetation community are the herbaceous weedy areas that are continually cleared or do not support woody vegetation because of cobbles on the surface. This habitat occurs adjacent to all paved areas and in the infield between the runway and taxiway. Other areas that are not characterized by woody vegetation are also considered ruderal. Many of these areas are cobbly or rocky and support only a sparse vegetation layer. Common species in the ruderal areas include yellow starthistle, prickly lettuce, hedge mustard, rose clover, nude buckwheat, moth mullein, cheat grass squirreltail, and ripgut grass.

The Chaparral/Shrub-scrub community support several woody species among the ruderal herbaceous species. These shrubby areas are intermixed with the ruderal areas. In areas where cobbles are not at the surface, shrubs colonize the herbaceous community and the habitat converts form ruderal to chaparral/shrub-scrub if enough years go by without scraping or disturbance. The south side of the airport, away from the runway, has not been scraped in several years and a young chaparral community is forming. Common shrubs in this community include sourberry (skunkbrush), greenleaf manzanita, buckbrush, birch-leaf mountain mahogany, and Himalayan blackberry.

The Riparian vegetation community occurs among the mined areas on the north side of the study area, associated with the undulating landscape and the "dredge hollows." Riparian hydrophytic vegetation mixes with upland non hydrophytic vegetation higher on the slopes. Riparian vegetation includes black cottonwood, pacific and arroyo willow, Himalayan blackberry, blackcap raspberry, California rose, gooseberry, and brown dogwood.

Waters of the United States

Two categories of waters of the United States have been mapped on the site: seasonal wetland and intermittent stream. Table 1 is an acreage summary of the types. Figure 4 presents a simplified version of the wetland delineation map while a full-size version of the wetland delineation map is included at the end of this report.



north fork associates

N

0 150 300 600

Scale in Feet

WATERS OF THE UNITED STATES

	ACREAGE
Seasonal Wetland (SW)	0.61
Intermittent Stream (IS)	0.46
TOTAL	1.07

Figure 4

WETLAND DELINEATION MAP

Hayfork Airport

Hayfork, Trinity County, CA

Table 1.
Waters of the United States

Type	Acreage
Wetlands: **Seasonal Wetland** **(Dredge Hollow Wetlands)**	**0.61-acre**
Other Waters: **Intermittent Stream** **(Kingsbury Gulch)**	**0.46-acre**
Total Waters of the United States	**1.07-acres**

Seasonal Wetland (Dredge Hollow)

Several depressional wetlands are mapped on the project site. We are calling these features Seasonal Wetlands in the generic sense but we refer to them as "Dredge Hollows" because they are a product of past mining activities. The dredge hollows occur in several locations on the north side of the runway. These depressions are characterized by rocky/cobbly side slopes with either a flat or bowl shaped bottom. Soil in the bottoms are fine grained (clays and silts) and many have a highly organic upper layer. The fines tend to retard water percolation and many (but not all) of the hollows support a wetland condition. Vegetation in the wetter hollow bottoms is typically herbaceous and hydrophytic. Vegetation in the drier hollow bottoms is typically woody and mostly hydrophytic. The slopes of the hollows, above the wetland bottom, support woody riparian vegetation.

Intermittent Stream (Kingsbury Gulch)

An Intermittent Stream (Kingsbury Gulch) flows south to north across the project area. The stream flows under the runway and into Hayfork Creek. Kingsbury Gulch flows intermittently from the beginning of the wet season through the winter and spring months. It was dry during our fieldwork in Mid July. The streambed is mostly unvegetated. Willow and cottonwood intermittently line the banks, particularly the east bank. The channel bed is a mix of gravel and rocks.

5a. Oblique aerial photo looking west down runway.

5b. Kingsburry Gulch near runway looking downstream to the north.

north fork associates

Photo Date: July 14, 2010

Figure 5

SITE PHOTOS

Hayfork Airport

Trinity County, California

6a. Seasonal wetland (at data point #10). Shallow depression lacking woody vegetation.

6b. Seasonal Wetland (Dredge Hollow wetland near data point #7) in northeast area of project site.

north fork associates

Photo Date: July 15, 2010

Figure 6

SITE PHOTOS

Hayfork Airport

Trinity County, California

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U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

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Soil Survey Staff. 1992. Keys to Soil Taxonomy, 5th Edition. SMSS Technical Monograph No. 19. Pocahontas Press, Blacksburg, VA.

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USDA, NRCS. 2010. Soils Survey of Trinity County, California.

WETLAND DELINEATION MAP

Hayfork Airport

Hayfork, Trinity County, CA

September 24, 2010

PREPARED BY:

north fork associates

110 Maple Street
Auburn, CA 95603
(530) 887-8500

PREPARED FOR:

Trinity County
Department of Transportation
31301 State Highway 3
P.O. Box 2490
Weaverville, CA 96093

DRAWN BY: M. Fremont
DELINEATOR: J. Glazner
DATE OF FIELDWORK: July 14 & 15, 2010

USACE REGULATORY FILE#:
VERIFIED BY:
DATE OF FIELD VERIFICATION:

NOTES:
1. T 31N, R 12W, S 11,12,13, & 14 of Hayfork, CA, USGS 7.5 minute topographic quadrangle.
2. Original map size: 24 x 36.
3. Study area corresponds with the existing deer fence.

WATERS OF THE UNITED STATES

	ACREAGE
Seasonal Wetland (SW)	0.61
Intermittent Stream (IS)	0.46
TOTAL	1.07

- Study Area (±86 acres)
- Wetland Data Point
- Waters Data Point
- Upland Data Point
- Box Culvert
- Water Flow

N

0 100 200 400

1 inch = 200 feet

Aerial Photo: October 2009 (Geoimagery)

Appendix A.
Wetland Data Sheets

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Hayfork Airport City/County: Hayfork/Trinity Sampling Date: July 14, 2010
Applicant/Owner: Trinity County State: CA Sampling Point: 1
Investigator(s): Jeff Glazner Section, Township, Range: Section 12/31N/12W
Landform (hillslope, terrace, etc.): hollow Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): _____ Lat: 6235056 Long: 2085288 Datum: NAD 83
Soil Map Unit Name: 102 - Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: Suspect area. Typical drier dredge hollow bottom. Lacks evidence of prolonged saturation.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size: _____)			
1. *Elymus glaucus*	20	yes	FACU
2. *Equisetum arvense.*	20	yes	FAC
3. *Asclepias facicularis*	5	no	FAC
4. *Lactuca serriola*	5	no	FAC
5. *Convolvulus arvensis*	10	no	UPL
6. *Vicia sp.*	5	no	UPL
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
50% = _____, 20% = _____	65	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. _____			
2. _____			
50% = _____, 20% = _____		= Total Cover	

% Bare Ground in Herb Stratum 30

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ 1 – Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ 5 - Wetland Non-Vascular Plants[1]
☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks: Willow, manazanita, buckbrush, foothill pine abundant on slope of dredge hollow

Project Site: Hayfork Airport

SOIL Sampling Point: 1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
10	2.5Y 3/3	100						No Redox

[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)
- ☐ 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) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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 Soils Present? **Yes** ☐ **No** ☒

Remarks: Loamy and organic in upper 12 inches.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	

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

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

Remarks: Some surface cracking evident but lowest areas of hollow do not show evidence of prolonged saturation.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Hayfork Airport City/County: Hayfork/Trinity Sampling Date: July 14, 2010
Applicant/Owner: Trinity County State: CA Sampling Point: 2
Investigator(s): Jeff Glazner Section, Township, Range: Section 12/31N/12W
Landform (hillslope, terrace, etc.): hollow Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): _____ Lat: 6233872 Long: 2084991 Datum: NAD 83
Soil Map Unit Name: 102 - Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: Bottom of dredge hollow. Clear evidence of prolonged ponding and near surface saturation.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: 5m^2)			
1. *Salix sp.*	20	yes	FACW
2. *Populus balsamifera subsp. trichocarpa*	20	yes	FACW
3. *Ribes sp.*	10	no	FAC
4. _____			
5. _____			
50% = _____, 20% = _____	50	= Total Cover	
Herb Stratum (Plot size: 5m^2)			
1. *Polypogon monspeliensis*	10	no	FACW
2. *Carex sp.*	10	no	FACW
3. *Veronica perigrina.*	1		OBL
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
50% = _____, 20% = _____	21	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. *Rubus leucodermis*	5		-
2. *Rubus discolor*			FACW
50% = _____, 20% = _____		= Total Cover	

% Bare Ground in Herb Stratum 60

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ 1 – Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ 5 - Wetland Non-Vascular Plants[1]
☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Low cover in bottomland wetland. Dense canopy cover. Woody hydrophytes mostly rooted on toe of slope.

Project Site: Hayfork Airport

SOIL Sampling Point: 2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
10	10yr 5/1	70	7.5yr 5/8	30		M	silty clay	organic surface

[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)
- ☐ 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) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☒ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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 Soils Present? **Yes** ☒ **No** ☐

Remarks: Highly organic silty clay. Strong redox.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☒ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☒ Sparsely Vegetated Concave Surface (B8)
- ☒ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☒	No	☐	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	0

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

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

Remarks: Although not currently ponded, clear evidence of prolonged saturation. Soils are fine-grained and retain water.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Hayfork Airport City/County: Hayfork/Trinity Sampling Date: July 14, 2010
Applicant/Owner: Trinity County State: CA Sampling Point: 3
Investigator(s): Jeff Glazner Section, Township, Range: Section 12/31N/12W
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5
Subregion (LRR): _____ Lat: 6233739 Long: 2085093 Datum: NAD 83
Soil Map Unit Name: 102 - Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: **Upland comparison to data point 2. Located just out of dredge hollow bottom on side slope.**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 2m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera subsp. trichocarpa*	30	yes	FACW
2. *Salix sp.*	40	yes	FACW
3. *Prunus subcordata*	10	no	-
4. _____			
50% = _____, 20% = _____	130	= Total Cover	
Sapling/Shrub Stratum (Plot size: 2m^2)			
1. *Rubus discolor*	20	yes	FACW
2. *Ribes sp.*	10	no	FAC
3. *Rhus aromatica*	30	yes	UPL
4. _____			
5. _____			
50% = _____, 20% = _____	50	= Total Cover	
Herb Stratum (Plot size: _____)			
1. *Circium vulgare*	5	no	UPL
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
50% = _____, 20% = _____		= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. _____			
2. _____			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum 80			

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ 1 – Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ 5 - Wetland Non-Vascular Plants[1]
☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks: Dense closed canopy on side slope of wetland dredge hollow. Typical riparian condition.

Project Site: Hayfork Airport

SOIL Sampling Point: 3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
10	10YR3/3	100						No redox

[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)
- ☐ 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) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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 Soils Present? **Yes** ☐ **No** ☒

Remarks: Rocky, loamy.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	

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

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

Remarks: This location just above ponding line of dredge hollow bottom. No evidence of prolonged saturation at this landscape position.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Hayfork Airport City/County: Hayfork/Trinity Sampling Date: July 14, 2010
Applicant/Owner: Trinity County State: CA Sampling Point: 4
Investigator(s): Jeff Glazner Section, Township, Range: Section 12/31N/12W
Landform (hillslope, terrace, etc.): dredge hollow Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): _____ Lat: 6233720 Long: 2085034 Datum: NAD 83
Soil Map Unit Name: 102 - Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: **Sparse wetland bottom but dense woody hydrophyes rooted at toe of slope**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 3m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera subsp. trichocarpa*	50	yes	FACW
2. *Salix sp.*	40	yes	FACW
3.			
4.			
50% = _____, 20% = _____	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 3m^2)			
1. *Ribies sp.*	10	no	FAC
2. *Rubus discolor*	5	no	FACW
3.			
4.			
5.			
50% = _____, 20% = _____	15	= Total Cover	
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = _____, 20% = _____		= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
50% = _____, 20% = _____		= Total Cover	

% Bare Ground in Herb Stratum 100

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ 1 – Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ 5 - Wetland Non-Vascular Plants[1]
☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Canopy closure over bottom of hollow is 95%. Wetland bottom lacks herbaceous vegetation at this location.

Project Site: Hayfork Airport

SOIL Sampling Point: 4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
12	10yr 5/1	80	75yr 4/6	70	RM	M	silty clay	Sticky fines

[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)
- ☐ 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) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☒ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Clay

Depth (inches): ____

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

Remarks: Muddy to surface. Highly organic soil in upper 8 inches. Fines from historic mining.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches): ____
Water Table Present?	Yes	☒	No	☐	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches): 6

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

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

Remarks: Very strong aquitard. Water perches well into summer.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Hayfork Airport City/County: Hayfork/Trinity Sampling Date: July 14, 2010
Applicant/Owner: Trinity County State: CA Sampling Point: 5
Investigator(s): Jeff Glazner Section, Township, Range: Section 12/31N/12W
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5
Subregion (LRR): _____ Lat: 6233739 Long: 2085093 Datum: NAD 83
Soil Map Unit Name: 102 - Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: **Upland comparison to #4. Data point located just above wetland edge of dredge hollow wetland.**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 2m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera subsp. trichocarpa*	60	yes	FACW
2. *Salix sp.*	40	yes	FACW
3. *Prunus subcordata*	30	yes	-
4. _____			
50% = _____, 20% = _____	130	= Total Cover	
Sapling/Shrub Stratum (Plot size: 2m^2)			
1. *Rubus discolor*	20	yes	FACW
2. *Ribes sp.*	10	no	FAC
3. _____			
4. _____			
5. _____			
50% = _____, 20% = _____	50	= Total Cover	
Herb Stratum (Plot size: _____)			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
50% = _____, 20% = _____		= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. _____			
2. _____			
50% = _____, 20% = _____		= Total Cover	

% Bare Ground in Herb Stratum 80

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ 1 – Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ 5 - Wetland Non-Vascular Plants[1]
☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Dense closed canopy on side slope of dredge hollow.

Project Site: Hayfork Airport

SOIL Sampling Point: 5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[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)
- ☐ 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) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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 Soils Present? **Yes** ☐ **No** ☒

Remarks: Cobbly. No soil data taken because no soil in upper part- all cobbles.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

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

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

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

Remarks: This location just above wetland line of dredge hollow bottom.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Hayfork Airport City/County: Hayfork/Trinity Sampling Date: July 14, 2010
Applicant/Owner: Trinity County State: CA Sampling Point: 6
Investigator(s): Jeff Glazner Section, Township, Range: Section 12/31N/12W
Landform (hillslope, terrace, etc.): hollow Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): _____ Lat: 6233539 Long: 2085096 Datum: NAD 83
Soil Map Unit Name: 102 - Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: **Dredge hollow wetland. Thick algal mat. Moist to surface.**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera subsp. trichocarpa*	50	yes	FACW
2. *Salix sp.*	50	yes	FACW
3. _____			
4. _____			
50% = _____, 20% = _____	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. *Ribes sp.*	10	no	FAC
2. _____			
3. _____			
4. _____			
5. _____			
50% = _____, 20% = _____	10	= Total Cover	
Herb Stratum (Plot size: _____)			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
50% = _____, 20% = _____		= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. _____			
2. _____			
50% = _____, 20% = _____		= Total Cover	

% Bare Ground in Herb Stratum 100

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ 1 – Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ 5 - Wetland Non-Vascular Plants[1]
☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Almost no vegetation rooted in wetland. Dense hydrophytic canopy on side slopes. .

Project Site: Hayfork Airport

SOIL Sampling Point: 6

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

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
10	7.5yr 4/1	50						

[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)
- ☐ 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) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☒ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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 Soils Present? **Yes** ☒ **No** ☐

Remarks: Highly organic soil. Saturated at 12 inches. No prominent redox. Grey clay mixed with organic. Moist to surface. Clearly held water for months.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):
Water Table Present?	Yes	☒	No	☐	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches): 12

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

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

Remarks: Strong evidence of prolonged saturation.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Hayfork Airport City/County: Hayfork/Trinity Sampling Date: July 14, 2010
Applicant/Owner: Trinity County State: CA Sampling Point: 7
Investigator(s): Jeff Glazner Section, Township, Range: Section 12/31N/12W
Landform (hillslope, terrace, etc.): hollow Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): _____ Lat: 6233438 Long: 2085092 Datum: NAD 83
Soil Map Unit Name: 102 - Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: **Dredge hollow wetland..**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera subsp. trichocarpa*	50	yes	FACW
2. *Salix sp.*	50		-
3.			
4.			
50% = _____, 20% = _____	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. *Ribes sp.*	10	no	FAC
2.			
3.			
4.			
5.			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size: _____)			
1. *Carex sp.*	20	yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = _____, 20% = _____		= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
50% = _____, 20% = _____		= Total Cover	

% Bare Ground in Herb Stratum 70

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ 1 – Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ 5 - Wetland Non-Vascular Plants[1]
☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Sparse wetland vegetation in bottom. Dense woody hydrophyes rooted from toe of wetland upslope. Canopy cover 95% on side slopes and shading wetland.

Project Site: Hayfork Airport

SOIL Sampling Point: 7

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
12	10 yr 3/1	100						6 inch surface organic layer

[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)
- ☐ 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) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☒ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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 Soils Present? **Yes** ☒ **No** ☐

Remarks: Highly organic soil. Uniformly grey. 6 inch organic layer on top.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☒ Water Marks (B1)
- ☒ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☒ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☒ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	____
Water Table Present?	Yes	☒	No	☐	Depth (inches):	5
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	5

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

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

Remarks: Moist to surface. Saturated at 5 inches. Evidence or prolonged saturation.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Hayfork Airport City/County: Hayfork/Trinity Sampling Date: July 14, 2010
Applicant/Owner: Trinity County State: CA Sampling Point: 8
Investigator(s): Jeff Glazner Section, Township, Range: Section 12/31N/12W
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1
Subregion (LRR): ____ Lat: 6233489 Long: 2085172 Datum: NAD 83
Soil Map Unit Name: 102 - Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes NWI classification: ____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: **Data point taken in cottonwood grove above dredge hollow. This location is 8 feet vertically higher on 10 feet lateral to data point 6 in dredge hollow bottom.**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera subsp. trichocarpa*	80	yes	FACW
2. *Salix sp.*	10	no	FACW
3. ____	____	____	____
4. ____	____	____	____
50% = ____, 20% = ____	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1. *Torilis arvensis*	10	no	UPL
2. *Avena fatua*	5	no	UPL
3. *Elymus glaucus*	5	no	FACU
4. *Bromus diandrus*	5	____	UPL
5. ____	____	____	____
50% = ____, 20% = ____	____	= Total Cover	
Herb Stratum (Plot size: ____)			
1. ____	____	____	____
2. ____	____	____	____
3. ____	____	____	____
4. ____	____	____	____
5. ____	____	____	____
6. ____	____	____	____
7. ____	____	____	____
8. ____	____	____	____
9. ____	____	____	____
10. ____	____	____	____
11. ____	____	____	____
50% = ____, 20% = ____	____	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1. ____	____	____	____
2. ____	____	____	____
50% = ____, 20% = ____	____	= Total Cover	

% Bare Ground in Herb Stratum 65

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

☐ 1 – Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ 5 - Wetland Non-Vascular Plants[1]
☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Dense cottonwood grove above dredge hollow bottom. Annual vegetation indicative of upland condition.

Project Site: Hayfork Airport

SOIL Sampling Point: 8

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[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)
- ☐ 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) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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 Soils Present? **Yes** ☐ **No** ☒

Remarks: Gravelly - lacks soil structure. Soil data not taken.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	____
Water Table Present?	Yes	☐	No	☒	Depth (inches):	____
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	____

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

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

Remarks: Upland landscape position. No evidense of surface waters.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Hayfork Airport City/County: Hayfork/Trinity Sampling Date: July 14, 2010
Applicant/Owner: Trinity County State: CA Sampling Point: 9
Investigator(s): Jeff Glazner Section, Township, Range: Section 11/31N/12W
Landform (hillslope, terrace, etc.): channel Local relief (concave, convex, none): none Slope (%): 2
Subregion (LRR): _____ Lat: 6233489 Long: 2085172 Datum: NAD 83
Soil Map Unit Name: 123- Carrcreek gravelly loam, 0-2 percent slopes NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: **Kingsbury Gulch. Waters of the United States. Channel is 20% vegetated - mostly cobbles and flat bottom with a very shallow slope to the north.**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size: _____)			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
50% = _____, 20% = _____		= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. _____			
2. _____			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum _____			

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes ☐ No ☐**

Remarks: Willow and cottonwood intermittently line channel. Herbaceous vegetation in channel include rose clover, ripgut grass, summer cottonweed, wild onion, monardella, and blazing star.

Project Site: Hayfork Airport

SOIL Sampling Point: 9

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[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)
- ☐ 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) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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 Soils Present? **Yes** ☐ **No** ☐

Remarks: Gravel - no soil. Soil data point not taken.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

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

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

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

Remarks: Seasonal stream. Flows November through May or ealy June. Dry in summer and early fall.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Hayfork Airport City/County: Hayfork/Trinity Sampling Date: July 14, 2010
Applicant/Owner: Trinity County State: CA Sampling Point: 10
Investigator(s): Jeff Glazner Section, Township, Range: Section 12/31N/12W
Landform (hillslope, terrace, etc.): seasonal wetland Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): ____ Lat: 6235110 Long: 2085064 Datum: NAD 83
Soil Map Unit Name: 102 - Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes NWI classification: ____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: Wetland - Depressional with herbaceous vegetation adjacent to riparian area. This is the only seasonal wetland on the property that is not surrounded by woody hydrophytes.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. ____			
2. ____			
3. ____			
4. ____			
50% = ____, 20% = ____		= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1. ____			
2. ____			
3. ____			
4. ____			
5. ____			
50% = ____, 20% = ____		= Total Cover	
Herb Stratum (Plot size: ____)			
1. *Navarretia intertexta*	20	yes	OBL
2. *Epilobium densiflorum*	5	no	OBL
3. *Deschampsia danthonioides*	20	yes	FACW
4. *Rumex crispus*	10	no	FACW
5. *Plantago lanceolata*	10	no	FAC
6. *Mimulus guttatus*	10	no	OBL
7. *Anthemis cotula*	1	no	FACU
8. *Veronica peregrina subsp. xalapensis*	1	yes	OBL
9. *Juncus patens*	5	no	FACW
10. ____			
11. ____			
50% = ____, 20% = ____	147	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1. ____			
2. ____			
50% = ____, 20% = ____		= Total Cover	
% Bare Ground in Herb Stratum 50			

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

☐ 1 – Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ 5 - Wetland Non-Vascular Plants[1]
☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Herbaceous wetland vegetation throughout basin. Approx 60% cover.

Project Site: Hayfork Airport

SOIL Sampling Point: 10

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
6	7.5yr 3/2							No Redox

[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)
- ☐ 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) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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 Soils Present? **Yes** ☒ **No** ☐

Remarks: Extremely rocky soil. Loamy. Hydric indicators are weak but the basin clearly exhibits wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☒ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☒ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☒ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

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

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

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

Remarks: Algal mat, aquatic invertebrate cysts, evidence of standing water and prolonged saturation in absence of weak hydric soils features.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Hayfork Airport City/County: Hayfork/Trinity Sampling Date: July 15, 2010
Applicant/Owner: Trinity County State: CA Sampling Point: 11
Investigator(s): Jeff Glazner Section, Township, Range: Section 12/31N/12W
Landform (hillslope, terrace, etc.): hollow Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): _____ Lat: 6233872 Long: 2084991 Datum: NAD 83
Soil Map Unit Name: 102 - Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: **Dredge hollow wetland. Large linear basin. Moist to surface with shallow saturation.**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera subsp. trichocarpa*	10	no	FACW
2. _____			
3. _____			
4. _____			
50% = _____, 20% = _____	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. *Rubus discolor*	10	no	FACW
2. *Salix sp.*	20	yes	FACW
3. *Rosa californica*	5	no	FAC
4. _____			
5. _____			
50% = _____, 20% = _____	35	= Total Cover	
Herb Stratum (Plot size: _____)			
1. *Carex sp.*	40	yes	FACW
2. *Ranunculus flammulas*	20	yes	FACW
3. *Eleocharis macrostachya*	20	yes	OBL
4. *Juncus effusus*	5	no	OBL
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
50% = _____, 20% = _____	85	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. _____			
2. _____			
50% = _____, 20% = _____		= Total Cover	

% Bare Ground in Herb Stratum 30

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ 1 – Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ 5 - Wetland Non-Vascular Plants[1]
☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Herbaceous wetland vegetation abundant throughout basin. Woody hydrophytic vegetation lines slopes above basin.

Project Site: Hayfork Airport

SOIL Sampling Point: 11

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
12	10YR 3/1	70	7.5YR4/6	30	RM	M		Strong redox

[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)
- ☐ 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) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☒ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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 Soils Present? **Yes** ☒ **No** ☐

Remarks: Dense silty clay. Organic layer top 4inches.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☒ Water Marks (B1)
- ☒ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☒ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	4

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

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

Remarks: Well defined basin and strong evidence of prolonged ponding and saturation. Wet to surface

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Hayfork Airport City/County: Hayfork/Trinity Sampling Date: July 15, 2010

Applicant/Owner: Trinity County State: CA Sampling Point: 12

Investigator(s): Jeff Glazner Section, Township, Range: Section 12/31N/12W

Landform (hillslope, terrace, etc.): shallow depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): _____ Lat: 6233872 Long: 2084991 Datum: NAD 83

Soil Map Unit Name: 102 - Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes NWI classification: _____

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

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

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

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

Remarks: **Located in dense stand of brown dogwood and Klamath plum. Not a dredge hollow but a very shallow depression on a slight slope. this area lacks wetland hydrology of evidence of prolonged saturation.**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. *Cornus glabrata*	50	yes	FACW
2. *Prunus subcordata*	50	yes	UPL
3. _____			
4. _____			
5. _____			
50% = _____, 20% = _____	100	= Total Cover	
Herb Stratum (Plot size: _____)			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
50% = _____, 20% = _____		= Total Cover	
Woody Vine Stratum (Plot size: 5m^2)			
1. _____			
2. _____			
50% = _____, 20% = _____		= Total Cover	

% Bare Ground in Herb Stratum 80

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ 1 – Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0[1]

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

☐ 5 - Wetland Non-Vascular Plants[1]

☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Dense shrub canopy. Shade. Lacks herbaceous veg at this location.

Project Site: Hayfork Airport

SOIL Sampling Point: 12

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
6	7.5yr 4/3	100						No Redox

[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)
- ☐ 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) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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 Soils Present? **Yes** ☐ **No** ☒

Remarks: Loamy and rocky in upper 12 inches. Clayey from 12-20 inches.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	

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

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

Remarks: Dry area. Lacks evidense of prolonged saturation.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Hayfork Airport City/County: Hayfork/Trinity Sampling Date: July 15, 2010
Applicant/Owner: Trinity County State: CA Sampling Point: 13
Investigator(s): Jeff Glazner Section, Township, Range: Section 12/31N/12W
Landform (hillslope, terrace, etc.): hollow Local relief (concave, convex, none): concave Slope (%): 2
Subregion (LRR): _____ Lat: 6233872 Long: 2084991 Datum: NAD 83
Soil Map Unit Name: 102 - Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: Small wetland hollow with a particularly cobbly surface. Soils below cobbles hydric.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. *Salix sp*	60	yes	FACW
2. _____			
3. _____			
4. _____			
5. _____			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size: _____)			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
50% = _____, 20% = _____	147	= Total Cover	
Woody Vine Stratum (Plot size: 5m^2)			
1. _____			
2. _____			
50% = _____, 20% = _____		= Total Cover	

% Bare Ground in Herb Stratum 90

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ 1 – Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0[1]
☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ 5 - Wetland Non-Vascular Plants[1]
☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Vegetation sparse and mostly limited to willow. Cobbles not conducive to herbaceous growth.

Project Site: Hayfork Airport

SOIL Sampling Point: 13

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
12	7.5yr 3/2	100	7.5YR 4/6	5	RM	M		No Redox

[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)
- ☐ 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) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☒ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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 Soils Present? **Yes** ☒ **No** ☐

Remarks: Cobbles. Soil below cobbles hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☒ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	____
Water Table Present?	Yes	☐	No	☒	Depth (inches):	____
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	____

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

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

Remarks: Evidence of standing water in small hollow with cobble surface.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Hayfork Airport City/County: Hayfork/Trinity Sampling Date: July 15, 2010
Applicant/Owner: Trinity County State: CA Sampling Point: 14
Investigator(s): Jeff Glazner Section, Township, Range: Section 12/31N/12W
Landform (hillslope, terrace, etc.): shallow depression Local relief (concave, convex, none): concave Slope (%): 2
Subregion (LRR): _____ Lat: 6233872 Long: 2084991 Datum: NAD 83
Soil Map Unit Name: 102 - Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: **Located in dense stand of willow and Klamath plum. Not a dredge hollow but a very shallow depression on a slight slope. this area lacks wetland hydrology of evidence of prolonged saturation.**

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. *Salix sp.*	50	yes	FACW
2. *Prunus subcordata*	50	yes	UPL
3. _____			
4. _____			
5. _____			
50% = _____, 20% = _____	100	= Total Cover	
Herb Stratum (Plot size: _____)			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
50% = _____, 20% = _____		= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. _____			
2. _____			
50% = _____, 20% = _____		= Total Cover	

% Bare Ground in Herb Stratum 80

Dominance Test Worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks: Dense shrub canopy. Shaded.

Project Site: Hayfork Airport

SOIL Sampling Point: 14

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
6	7.5yr 4/3	100						No Redox

[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)
- ☐ 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) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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 Soils Present? **Yes** ☐ **No** ☒

Remarks: Loamy and rocky in upper 12 inches. Clayey below.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	

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

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

Remarks: Dry area. Lacks evidense of prolonged saturation.

Appendix B.
Plant Species Observed on the Project Study Area

Plant Species Observed on the Project Study Area

Common Name	Taxon	Wetland Status
Annual beard grass	*Polypogon monspeliensis*	FACW+
Annual hairgrass	*Deschampsia danthonioides*	FACW
Arroyo willow	*Salix lasiolepis*	FACW
Bachelor's button	*Centaurea cyanus*	-
Baltic rush	*Juncus balticus*	OBL
Beardtongue	*Penstemon sp.*	-
Bindweed	*Convolvulus arvensis*	-
Birch-leaf mountain mahogany	*Cercocarpus betuloides var. betuloides*	-
Bitter cherry	*Prunus emarginata*	-
Black cottonwood	*Populus balsamifera subsp. trichocarpa*	FACW
Blackcap raspberry	*Rubus leucodermis*	-
Blazing star	*Mentzelia laevicaulis*	-
Blue elderberry	*Sambucus nigra subsp. caerulea*	FAC
Blue wildrye	*Elymus glaucus*	FACU
Brown dogwood	*Cornus glabrata*	FACW
Buck brush	*Ceanothus cuneatus var. cuneatus*	-
Bull thistle	*Cirsium vulgare*	FACU
California black oak	*Quercus kelloggii*	-
California blackberry	*Rubus ursinus*	FACW*
California mugwort	*Artemisia douglasiana*	FACW
California poppy	*Eschscholzia californica*	-
Califronia rose	*Rosa californica*	FAC+
Calycadenia	*Calycadenia sp.*	-
Cascara sagrada	*Frangula purshiana subsp. purshiana*	-
Cheat grass	*Bromus tectorum*	-
Chinese caps	*Euphorbia crenulata*	-
Common fiddlneck	*Amsinckia menziesii*	-
Common monkeyflower	*Mimulus guttatus*	OBL
Common rush	*Juncus patens*	FAC
Common yarrow	*Achillea millefolium*	FACU
Creeping spikerush	*Eleocharis macrostachya*	OBL
Curly dock	*Rumex crispus*	FACW-
Dense-flower spike-primrose	*Epilobium densiflorum*	OBL
Douglas-fir	*Pseudotsuga menziesii var. menziesii*	-
English plantain	*Plantago lanceolata*	FAC-
Field hedge-parsley	*Torilis arvensis*	-
Foothill pine	*Pinus sabiniana*	-
Garden burnet	*Sanguisorba minor subsp. muricata*	FACU*

Common Name	Taxon	Wetland Status
Goose grass	*Galium aparine*	FACU
Gooseberry, currant	*Ribes sp.*	VARIES
Greenleaf manzanita	*Arctostaphylos patula*	-
Harvest brodiaea	*Brodiaea elegans subsp. elegans*	FACU
Hedge mustard	*Sisymbrium officinale*	-
Himalayan blackberry	*Rubus discolor*	FACW*
Hog fennel	*Lomatium californicum*	-
Horsetail	*Equisetum sp.*	VARIES
Indian hemp	*Apocynum cannabinum*	FAC
Klamathweed	*Hypericum perforatum*	-
Lessingia	*Lessingia sp.*	-
Lotus	*Lotus nevadensis var. nevadensis*	-
Lupine	*Lupinus microcarpus*	-
Madrone	*Arbutus menziesii*	-
Mayweed	*Anthemis cotula*	FACU
Medusahead	*Taeniatherum caput-medusae*	-
Milkweed	*Asclepias sp.*	-
Monardella	*Monardella sheltonii*	-
Morning-glory	*Calystegia purpurata subsp. purpurata*	-
Moth mullein	*Verbascum blattaria*	FACW
Narrow-leaf collomia	*Collomia linearis*	FACU
Narrow-leaf milkweed	*Asclepias fascicularis*	FAC
Narrowleaf mules ears	*Wyethia angustifolia*	FACU-
Navarretia	*Navarretia atractyloides*	-
Needle-leaved navarretia	*Navarretia intertexta subsp. intertexta*	OBL
Nightshade	*Solanum parishii*	-
Nude buckwheat	*Eriogonum nudum*	-
Pacific plum	*Prunus subcordata*	-
Pacific ponderosa pine	*Pinus ponderosa*	FACU
Pacific willow	*Salix lasiandra var. lasiandra*	OBL
Penstemon	*Penstemon heterophyllus var. purdyi*	-
Phacelia	*Phacelia sp.*	VARIES
Poison hemlock	*Conium maculatum*	FACW
Prickly lettuce	*Lactuca serriola*	FAC
Purslane speedwell	*Veronica peregrina subsp. xalapensis*	OBL
Queen Anne's lace	*Daucus carota*	-
Ripgut grass	*Bromus diandrus*	-
Rose clover	*Trifolium hirtum*	-
Salsify	*Tragopogon sp.*	-
Sedges	*Carex spp.*	VARIES

Common Name	Taxon	Wetland Status
Sheep sorrel	*Rumex acetosella*	FAC-
Shining swertia	*Swertia albicaulis var. nitida*	-
Skullcap	*Scutellaria siphocampyloides*	-
Soft rush	*Juncus effusus*	OBL
Sourberry	*Rhus aromatica*	NI
Spanish brome	*Bromus madritensis subsp. madritensis*	-
Spanish-clover	*Lotus purshianus var. purshianus*	-
Spearwort buttercup	*Ranunculus flammula*	FACW
Squirreltail	*Elymus elymoides*	-
Straggly gooseberry	*Ribes diviricatum var. pubiflorum*	FACW
Summer cottonweed	*Epilobium brachycarpum*	-
Turkey mullein	*Croton setigerus*	-
Valley oak	*Quercus lobata*	FAC*
Veronica	*Veronica sp.*	VARIES
Vetch	*Vicia sp.*	-
Vinegar weed	*Trichostema lanceolatum*	-
Virgate scorpion-weed	*Phacelia heterophylla subsp. virgata*	FACU
Water speedwell	*Veronica anagallis-aquatica*	OBL
Western buttercup	*Ranunculus occidentalis*	FACW
Western clematis	*Clematis ligusticifolia*	FAC
Western yellow cress	*Rorippa curvisiliqua*	OBL
Whiteleaf manzanita	*Arctostaphylos viscida*	-
Wild oat	*Avena fatua*	-
Wild onion	*Allium sp.*	VARIES
Wild pea	*Lathyrus sp.*	VARIES
Willow	*Salix sp.*	VARIES
Winecup clarkia	*Clarkia purpurea*	-
Woolly mullein	*Verbascum thapsus*	-
Yellow starthistle	*Centaurea solstitialis*	-

Appendix C.
GIS Files

GIS Files are provided to the Corps and are available upon request.

APPENDIX D

Agency Consultation Letters

U.S Department
of Transportation
**Federal Aviation
Administration**

Western-Pacific Region
Airports Division

San Francisco Airports District Office
831 Mitten Road
Burlingame, CA 94010

January 21, 2011

Mr. Milford Wayne Donaldson
Office of Historic Preservation
California Department of Parks and Recreation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Mr. Donaldson:

**Section 106 Consultation for the Proposed Improvement Projects
Hayfork Airport, Hayfork, California**

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 the approval of the near-term projects depicted on an Airport Layout Plan (ALP) for the Hayfork Airport (Airport). Approval of the ALP and funding of the proposed improvement constitutes a federal undertaking, requiring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations of 36 Code of Federal Regulation (CFR) Part 800. This letter is submitted to initiate consultation with the State Historic Preservation Office (SHPO) pursuant to 36 CFR Part 800.2(c) (l) (i) and 36 CFR Part 800.3(c) and request your concurrence with the Area of Potential Effect (APE), as depicted in the Archaeological Inventory Survey enclosure.

Description of Proposed Undertaking

The Airport proposes to extend the existing 30-foot wide partial parallel taxiway approximately 1,415 feet west to match the full length of the existing runway. The taxiway extension would provide access to the western portion of the airport.

The taxiway will cross Kingsbury Gulch by way of a culvert. The structure would be 6.7 feet high and extend 20 feet beyond the north and south edge of the taxiway pavement. The structure would be designed to match or exceed the hydraulic capacity of the existing culvert under the runway and would have a natural bottom to allow fish passage and erosion control. The construction of the structure beneath the proposed taxiway extension will be approximately 120 feet wide and 43 feet long over Kingsbury Gulch.

The runway and taxiway safety areas will be graded and brush removed starting from the existing taxiway end and move west towards Runway 7. The proposed project is shown in the Archaeological Inventory Survey report.

Archaeology Inventory Survey

The Archaeological Inventory Survey report was prepared and the APE was identified. The proposed project is not anticipated to result in adverse effects to historic properties.

Native American Consultation

In December 2010, the FAA sent letters to those on the Native American Heritage Commission (NAHC) list requesting they provide information concerning the proposed project area if any was available. The NAHC list included federally recognized and non-federally recognized tribes, individuals, and groups expressing interest in the area. The FAA did not get any responses back from those tribes, individuals, and groups that received letters. Therefore, the FAA believes there are no concerns regarding the proposed project.

Summary of Findings and Determination of Effect

Based on the information contained in the Archaeological Inventory Survey report, the FAA has determined that there are no properties that are listed or eligible for listing on the National Register of Historic Places (NRHP) within the APE. The FAA has also determined that the proposed undertaking will not affect any properties listed or eligible for listing on the NRHP. Appropriate measures will be followed in the event that any buried archaeological resources are encountered during the proposed project. All activities will be temporarily suspended in the immediate vicinity of the find to allow for a qualified archaeologist to evaluate the find and implement appropriate mitigation measures, as needed.

If you have any questions or need additional information on this submittal, please contact me at 650-876-2778 ext. 600 or robin.k.hunt@faa.gov. You can also contact Barry Franklin at 650-876-2778 ext. 614 or barry.franklin@faa.gov.

Sincerely,

Robin K. Hunt
Manager, Airports District Office

Enclosure: Archaeological Inventory Survey Hayfork Airport Improvement Project (Genesis Society, November 2, 2010)

Cc: J. Smith, Trinity County, w/o encl
M. Wallace, Wallace Environmental Consulting, Inc., w/o encl

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

EDMUND G. BROWN, JR., *Governor*

March 7, 2011

Reply In Reference To: FAA110121A

Robin K. Hunt
Federal Aviation Administration
San Francisco Airports District Office
831 Mitten Road
Burlingame, CA 94010

RE: Proposed Improvement Projects, Hayfork Airport, Hayfork, CA

Dear Ms. Hunt:

Thank you for initiating consultation with me on behalf of the Federal Aviation Administration (FAA) in order to comply with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f), as amended, and its implementing regulation at 36 CFR Part 800. You are requesting I concur that the project, as described, will not affect historic properties.

The FAA proposes to extend the existing 30-foot wide partial parallel taxiway approximately 1,415 feet to the west to match the full length of the existing runway. This extension will provide access to the western portion of the airport. A culvert will be constructed to divert water from a portion of the new taxiway. This 120 foot wide by 43 foot long structure will stand 6.7 feet high and extend 20 feet beyond the northern and southern edge of the taxiway pavement. The runway and taxiway safety areas will be graded. The maximum depth of ground disturbance associated with this undertaking is not expected to exceed 7 feet below ground level. In addition to your letter, you have provided evidence of Native American consultation and the following study in support of this undertaking:

- *Archaeological Inventory Survey, Hayfork Airport Improvement Project, 78.6 Acres, Trinity County, California* (Genesis Society Archeological Resource Management Services: November 2010)

This document summarizes the results of a pedestrian archaeological survey of the project area. Archaeologists walked 10-to-15 meter transects across the entire site. Most of the project area has been subjected to intensive disturbance associated with building and maintaining the airport. These activities include intensive grading, land re-contouring, and construction. In searching for cultural resources, the surveyor took into account the results of background research as well as looking for any unusual contours, soil changes, distinctive vegetation patterns, artifacts, features, and other possible indicators of cultural sites. Aside from the presence of scattered waste rock possibly associated with past mining, no historic properties were identified.

Having reviewed this information, I have the following comments:

1) I concur that the Area of Potential Effects (APE) has been properly determined and documented pursuant to 36 CFR Parts 800.4 (a)(1) and 800.16 (d).

2) I further concur that the finding of No Historic Properties Affected is appropriate pursuant to 36 CFR Part 800.4(d)(1) and that the documentation supporting this finding has been provided pursuant to 36 CFR Part 800.11(d).

3) Be advised that under certain circumstances, such as an unanticipated discovery or a change in project description, you may have additional future responsibilities for this undertaking under 36 CFR Part 800.

Thank you for considering historic resources during project planning. If you have any questions or comments, please contact Tristan Tozer of my staff at (916) 445-7027, or email at ttozer@parks.ca.gov.

Sincerely,

Susan K Stratton for

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

DEPARTMENT OF THE ARMY
SAN FRANC'SCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET, 16TH FLOOR
SAN FRANCISCO, CALIFORNIA 94103-1398

REPLY TO
ATTENTION OF

Regulatory Division

JAN 26 2011

SUBJECT: File No. 2010-00387N

Ms. Janice C. Smith
Senior Environmental Compliance Specialist
Trinity County Department of Transportation
P.O. Box 2490
Weaverville, California 96093

Dear Janice:

This correspondence is in reference to your cover letter of October 4, 2010 and submittal of the document, *Wetland Delineation for the 86-Acre Hayfork Airport Study Area, Community of Hayfork, Trinity County, California*, prepared by North Fork Associates dated 09-29-2010 on behalf of the Trinity County department of Transportation, requesting a preliminary jurisdictional determination of the extent of navigable waters of the United States and waters of the United States occurring at the Hayfork Airport and security perimeter, bounded by Hayfork Creek to the north, State Route 3 to the west, Morgan Hill Road to the south, and Bridge Road to the east, near the community of Hayfork, in Trinity County, California.

All proposed discharges of dredged or fill material occurring below the plane of ordinary high water in non-tidal waters of the United States; or below the high tide line in tidal waters of the United States; and within the lateral extent of wetlands adjacent to these waters, typically require Department of the Army authorization and the issuance of a permit under Section 404 of the Clean Water Act of 1972, as amended (33 U.S.C. § 1344 *et seq.*). Waters of the United States generally include the territorial seas; all traditional navigable waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters subject to the ebb and flow of the tide; wetlands adjacent to traditional navigable waters; non-navigable tributaries of traditional navigable waters that are relatively permanent, where the tributaries typically flow year-round or have continuous flow at least seasonally; and wetlands directly abutting such tributaries. Where a case-specific analysis determines the existence of a "significant nexus" effect with a traditional navigable water, waters of the United States may also include non-navigable tributaries that are not relatively permanent; wetlands adjacent to non-navigable tributaries that are not relatively permanent; wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary; and certain ephemeral streams in the arid West.

The enclosed delineation map entitled, Preliminary Jurisdictional Determination for Hayfork Airport, Trinity Co. DOT APN 014-430-0800, Hayfork, Trinity Co., CA, Confirmed by: D. Ammerman, USACE in one (1) sheet date certified 10-26-2010, depicts the extent and location of wetlands and other waters of the United States within the boundary area of the site that **may be** subject to U.S. Army Corps of Engineers' regulatory authority under Section 404 of the Clean Water Act. This preliminary jurisdictional determination is based on the current conditions of the site, as verified during a field investigation of 10-26-2010, and a review of other data included in your submittal. While this preliminary jurisdictional determination was conducted pursuant to Regulatory Guidance Letter No. 08-02, *Jurisdictional Determinations*, it may be subject to future revision if new information or a change in field conditions becomes subsequently apparent. The basis for this preliminary jurisdictional determination is fully explained in the enclosed *Preliminary Jurisdictional Determination Form.* You are requested to sign and date this form and return it to this office within two (2) weeks of receipt.

You are advised that the preliminary jurisdictional determination may **not** be appealed through the U.S. Army Corps of Engineers' *Administrative Appeal Process*, as described in 33 C.F.R. Section 331 (65 Fed. Reg. 16,486; Mar. 28, 2000). Under the provisions of 33 C.F.R Section 331.5(b)(9), non-appealable actions include preliminary jurisdictional determinations since they are considered to be only advisory in nature and make no definitive conclusions on the jurisdictional status of the water bodies in question. However, you may request this office to provide an approved jurisdictional determination that precisely identifies the scope of jurisdictional waters on the site; an approved jurisdictional determination may be appealed through the *Administrative Appeal Process*. If you anticipate requesting an approved jurisdictional determination at some future date, you are advised not to engage in any on-site grading or other construction activity in the interim to avoid potential violations and penalties under Section 404 of the Clean Water Act. Finally, you may provide this office new information for further consideration and request a reevaluation of this preliminary jurisdictional determination.

You may refer any questions on this matter to David Ammerman of my Regulatory staff by telephone at 707-443-0855 or by e-mail at David.A.Ammerman@usace.army.mil. All correspondence should be addressed to the Regulatory Division, North Branch, referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. My Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner, while preserving and protecting our nation's aquatic resources. If you

would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website: http://www.spn.usace.army.mil/regulatory/.

Sincerely,

for

Jane M. Hicks
Chief, Regulatory Division

Enclosures

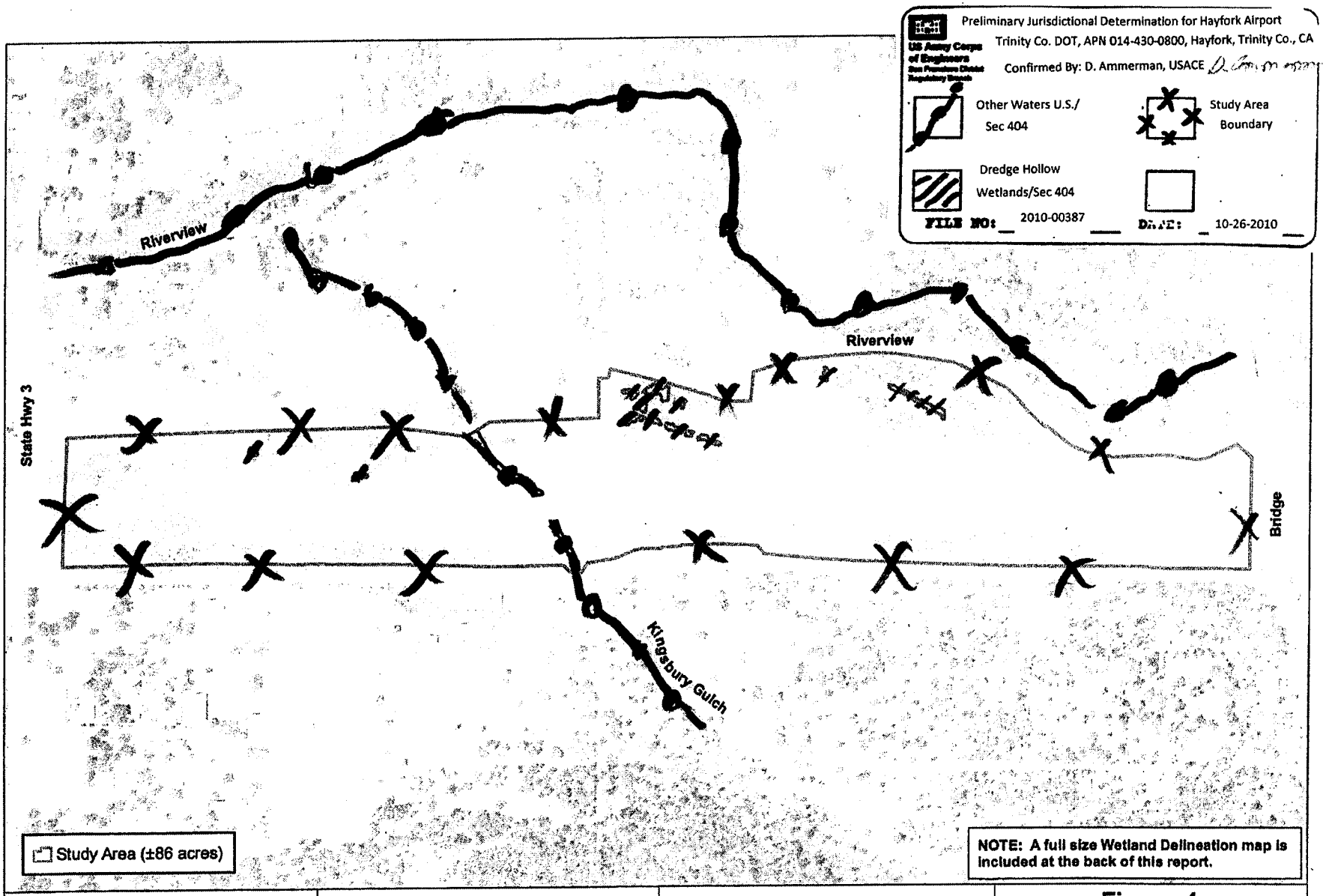

Figure 4

WETLAND DELINEATION MAP

Hayfork Airport

Hayfork, Trinity County, CA

PRELIMINARY JURISDICTIONAL DETERMINATION FORM
San Francisco District

This Preliminary Jurisdictional Determination finds that there *"may be"* waters of the United States in the subject review area and identifies all such aquatic features, based on the following information:

Regulatory Division: North Branch **File Number:** 2010-00387N **PJD Completion Date:** 01-07-2011

Review Area Location
City/County: Hayfork/Trinity State: California
Nearest Named Waterbody: Kingsbury Gulch
Approximate Center Coordinates of Review Area
Latitude (degree decimal format): 40.547°N
Longitude (degree decimal format): -123.179°W
Approximate Total Acreage of Review Area: 86 Select

File Name: Hayfork Airport Delineation

Applicant or Requestor Information
Name: Janice C. Smith
Company Name: Trinity County Department of Transportation
Street/P.O. Box: P.O. Box 2490
City/State/Zip Code: Weaverville, California 96093

Estimated Total Amount of Waters in Review Area

Non-Wetland Waters: lineal feet feet wide and/or
.46 acre(s) Flow Regime: Intermittent

Wetlands: lineal feet feet wide and/or
.61 acre(s) Cowardin Class: Palustrine- scrub-shrub

Name of Section 10 Waters Occurring in Review Area
Tidal:
Non-Tidal:

☒ Office (Desk) Determination
☒ Field Determination:
Date(s) of Site Visit(s): 10-26-2010

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

☒ Maps. Plans, plots or plat submitted by or on behalf of applicant/requestor (specify): North Fork Associates Wetland Delineation

☒ Data sheets submitted by or on behalf of applicant/requestor (specify): North Fork Associates Wetland Delineation

- ☒ Corps concurs with data sheets/delineation report.
- ☐ Corps does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps.
☐ Corps navigable waters' study (specify):
☐ U.S. Geological Survey Hydrologic Atlas:
- ☐ USGS NHD data.
- ☐ USGS HUC maps.

☒ U.S. Geological Survey map(s) (cite quad name/scale): Hayfork/7.5 min
☒ USDA Natural Resources Conservation Service Soil Survey.
☐ National wetlands inventory map(s) (specify):
☐ State/Local wetland inventory map(s) (specify):
☐ FEMA/FIRM maps.
☐ 100-year Floodplain Elevation (specify, if known):
☒ Photographs: ☒ Aerial (specify name and date): North Fork Associates Wetland Delineation, 9-29-2010
☒ Other (specify name and date): North Fork Associates Wetland Delineation and Corps File photos
☐ Previous JD determination(s) (specify File No. and date of response letter):
☐ Other information (specify):

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

David A. Ammerman 1-07-2011 Janice C Smith 1-18-2011

Signature and Date of Regulatory Project Manager
(REQUIRED)

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

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

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

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

Aquatic Resource I.D.	Latitude (degree decimal format)	Longitude (degree decimal format)	Cowardin Class and Flow Regime	Estimated Area or Lineal Feet of Aquatic Resource	Type of Aquatic Resource
Kingsb	40.547°N	-123.179°W	Riverine Flow: Intermittent	lineal ft ft wide .46 acre(s)	Natural Creek
dp2-8	40.549°N	-123.175°W	Palustrine-scrub-shrub Flow: Seasonal	lineal ft ft wide .40 acre(s)	Seasonal Wetland
10-14	40.547°N	-123.182°W	Palustrine-scrub-shrub Flow: Seasonal	lineal ft ft wide .21 acre(s)	Seasonal Wetland
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U.S Department
of Transportation
**Federal Aviation
Administration**

Western-Pacific Region
Airports Division

San Francisco Airports District Office
831 Mitten Road
Burlingame, CA 94010

January 21, 2011

Mr. Clarence Hostler
Section 7 Supervisor
Southern Oregon/Northern California Coast
National Marine Fisheries Service
1655 Heindon Road
Arcata, CA 95521

Dear Mr. Hostler:

Hayfork Airport, Hayfork, California Proposed Improvements

The purpose of this letter is to initiate informal Section 7 consultation, under Title 50, Code of Federal Regulations (CFR) Part 402, and the implementing regulations for the Endangered Species Act of 1973, as amended. The Federal Aviation Administration (FAA) is beginning informal Section 7 consultation of evaluating the potential impacts from extending the existing taxiway, replacing the existing culvert with a new one, grading and brush removal of both runway and taxiway safety areas at Hayfork Airport, Hayfork, California. The County of Trinity (County) is the owner and operator of the airport.

The County proposes to extend the existing 30-foot wide partial parallel taxiway approximately 1,415 feet west to match the full length of the existing runway. The taxiway extension would provide access to the western portion of the airport.

The taxiway will cross Kingsbury Gulch by way of a culvert. The structure would be 6.7 feet high and extend 20 feet beyond the north and south edge of the taxiway pavement. The construction of the structure beneath the proposed taxiway extension will be approximately 120 feet wide and 43 feet long over Kingsbury Gulch.

The runway and taxiway safety areas will be graded and brush removed starting from the existing taxiway end and move west towards Runway 7. The proposed project is shown in the Biological Assessment figure 1-2 of the attached enclosure.

The County conducted biological surveys in October 2009, May 2010, and July 2010. The proposed improvements fall within the boundaries of Coho (*Oncorhynchus kisutch*) designated critical habitat and essential fish habitat for Coho and Chinook salmon (Oncorhynchus tshawytscha) as designated by the National Marine Fisheries Service.

Due to the lack of water and absence of Coho or Chinook salmon within the project area during the anticipated construction period (June 15 – October 15), there is no potential for direct effects on fish. Potential indirect effects of this proposed project on fish include decreases in riparian vegetation, intrusion of fine sediment into spawning gravel, changes to fish passage, and hydrocarbon contamination.

The extension of the taxiway will result in the removal of a few willow and alder patches. However, the bulk of the native riparian vegetation coverage is located downstream of the airport property line. The loss of the minor amount of vegetation within the project reach would likely have minimal effect on fish or their habitat.

In order to ensure that sediment-related impacts are minimal, the project will implement a variety of best management practices (BMPs). The proposed project sediment-related impacts would be mitigated in large part by implementation of standard erosion control measures. In addition, the lack of functional habitat for Coho and Chinook salmon within Kingsbury Gulch would render even the short-lived construction-related sediment effects insignificant.

The culvert would be designed to match or exceed the hydraulic capacity of the existing culvert under the runway and would have a natural bottom to allow for unimpeded fish passage and erosion control. Therefore, the proposed project will not result in additional impediments to fish passage than already exists in Kingsbury Gulch.

Hydrocarbon contamination of aquatic habitats could potentially occur during construction operations. Contamination could result from leaking fuel or hydraulic lines on heavy equipment, improper fuel handling practices, or spills during refueling or lubrication operations. The operators will ensure that all fuel and hydraulic lines on heavy equipment are in good working order and not leaking. The operators will also conduct all fueling and lubrication operations at the construction staging area, which will be located at the pilot's parking lot, and comply with all applicable standard BMPs. All equipment will be serviced on an as-needed basis with the necessary fueling and lubrication conducted at the construction staging area. Accidents, such as a breaking of a hydraulic line, require immediate clean-up of the area well before the onset of high-flow conditions. Therefore, unless an accident occurs, aquatic habitat would not be affected by hydrocarbon contamination.

Based on these findings, the FAA has determined that the proposed improvements are not likely to adversely affect the Coho Salmon and its designated critical habitat or essential fish habitat for Coho and Chinook salmon.

If you have any questions or need additional information on this submittal, please contact me at 650-876-2778 ext. 600 or robin.k.hunt@faa.gov. You can also contact Barry Franklin at 650-876-2778 ext. 614 or barry.franklin@faa.gov.

Sincerely,

for Robin K. Hunt
Manager, Airports District Office

Enclosure: Biological Assessment for the Hayfork Airport Runway Safety Area Improvements and Taxiway Extension Projects (North Fork Associates and Wallace Environmental Consulting, Inc., January 2011)

cc: J. Smith, Trinity County Department of Transportation, w/o encl
M. Wallace, Wallace Environmental Consulting, Inc., w/o encl

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

In response refer to:
2011/00382

APR 07 2011

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Robin K. Hunt
Manager, San Francisco Airports District Office
Federal Aviation Administration
831 Mitten Road, Suite 210
Burlingame, California 94010

Dear Ms. Hunt:

On January 26, 2011, NOAA's National Marine Fisheries Service (NMFS) received the Federal Aviation Administration's (FAA) letter and biological assessment, requesting initiation of informal consultation pursuant to section 7(a) (2) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*), and its implementing regulations (50 CFR Part 402), for the Hayfork Airport Runway Safety Area Improvements and Taxiway Extension Project (Project). The Project is located in the town of Hayfork, Trinity County, California. The county of Trinity (County) is the owner and operator of the airport.

This letter constitutes informal consultation for federally threatened Southern Oregon/Northern California Coast (SONCC) coho salmon (*Oncorhynchus kisutch*; 70 FR 37160, June 28, 2005) and their designated critical habitat (64 FR 24049, May 5, 1999). This letter also serves as consultation under the authority of and in accordance with the provisions of the Fish and Wildlife Coordination Act of 1934 (FWCA), as amended, and constitutes completion of consultation in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA).

PROPOSED ACTION

The FAA proposes to authorize construction of the County's Hayfork Airport Runway Safety Area Improvements and Taxiway Extension Project, pursuant to FAA's Runway Safety Area (RSA) Program. The County proposes to extend the length of the existing 2,700 foot long by 30-foot wide taxiway by approximately 1,415 feet in order to match the full length of the existing parallel runway. The taxiway would provide access to the western portion of the airport. The proposed taxiway will cross Kingsbury Gulch by way of a 120-foot long by 43-foot wide concrete natural-bottom culvert. The culvert will be 6.7 feet tall and extend 20 feet beyond the north and south edges of the taxiway pavement. Excavation activities in Kingsbury Gulch will be limited to the period when there is no surface flow (estimated June 15 to October 15).

Both sides of the taxiway extension will be graded and cleared 10 feet from the edges of the pavement, or 25 feet from both sides of the taxiway centerline to meet FAA design standards for the Taxiway Safety Area. The ground will be cleared an additional 20 feet on both sides of the taxiway to meet FAA design standards to create a Taxiway Object Free Area of 90 feet from the centerline. In addition, the RSA will be cleared of brush and graded at the end of the existing runway. The area to be cleared and graded

extends 240 feet west of the end of the existing runway and 120 feet north and south, centered on the runway centerline, or 60 feet from either edge of the runway. The project will result in the removal of a few willow and alder patches that likely provide shade to the adjacent channel.

The County proposes to implement the following measures to minimize construction-related impacts to the aquatic environment: (1) water active construction areas to control dust generation during earthmoving activities; (2) install erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, and sandbag dykes; (3) stockpile and replace topsoil at the conclusion of construction activities; (4) cover the RSA with gravel and reseeding the Taxiway Object Free Area with native grasses; (5) grading to eliminate flow paths that could concentrate water and result in rilling and gullying; (6) no disturbed surfaces will be left without erosion control measures in place during the rainy season (October 15 through April 15); (7) if dewatering of excavations is necessary, groundwater shall be pumped to an unlined sediment basin where it will percolate back into the soil without discharging to surface water bodies; (8) no contact of wet concrete with the live stream will be allowed; (9) concrete washouts will be installed to capture anticipated concrete construction waste; (10) if drilling muds are used to drill holes within the ordinary high-water zone, all drilling muds and fluid within all drilled holes will be pumped through a closed system, contained on-site in tanks, removed from the project area, and stored and disposed of at an appropriate off-site facility; and (11) all spoils materials from the drilled or excavated pier holes will be removed and disposed of in a manner that will prevent sediment discharge or runoff of sediment into water of the United States. The County will also utilize Best Management Practices (BMPs) regarding fueling and maintenance of heavy equipment. These BMPs include: (1) fueling and maintenance of equipment will be restricted to a single staging area at the pilot's parking lot; (2) fuel and hydraulic lines on equipment will be inspected for leaks prior to use; and (3) if an accident were to occur, such as a broken hydraulic line, spilled fluid will be immediately removed and the area cleaned before the return of high flow conditions.

ESA CONSULTATION

The action area includes the project area, and continues down Kingsbury Gulch for approximately 0.4 miles to Hayfork Creek. The project area is outside of SONCC coho salmon critical habitat. No information exists to suggest that coho salmon have ever occupied Kingsbury Gulch (the drainage that bisects the runway). Also, channel aggradation upstream of and through the project area results in the gulch having subsurface flows through the project area (for example, a Google Earth photo from May 2007 indicates that overland flows went subsurface about 750 feet upstream, of the runway).

Occupancy of SONCC coho salmon, based on the results of past monitoring, is expected to be about 18 miles downstream of the project area. Instream work, in Kigsbury Gulch, would occur when there are no surface flows. BMP implementation would reduce or eliminate any project-related pollution from heavy equipment, and reduce the amount of suspended sediment and turbidity delivered to Kingsbury Gulch due to ground disturbance. Indirect effects to SONCC coho salmon from petroleum-based pollutants, suspended sediment or turbidity are not expected due to the minor amounts expected to be delivered to the gulch, in combination with the dilution that would occur between the project area and potential occupied habiat (18 miles downstream).

Effects to critical habitat would likely result from a reduction in shade following the removal of riparian vegetation, in addition to channel disturbance during excavation activities. However, Kigsbury Gulch flows subsurface during the times of year that shading would benefit the channel. Further, the proposed bottomless culvert would result in a net increase in the amount of instream shade, and the BMPs

described above would minimize effects to the channel substrate. Therefore, NMFS believes that introductions of any project-related sediment or toxins, and reductions in riparian vegetation would not have a measurable effect on the quality or quantity of SONCC coho salmon critical habitat.

ESA CONSULTATION

Based on our review of the documents provided and a site visit, NMFS concurs with the FAA's determination that the proposed project may affect, but is not likely to adversely affect Federally threatened SONCC coho salmon or their critical habitat. This concludes informal section 7 consultation in accordance with 50 CFR § 402.14(b)(1) for the proposed project. However, reinitiating consultation may be required where discretionary Federal involvement or control over the action has been retained or is authorized by law, and if: (1) the Project is modified in a manner that causes an effect to the listed species or critical habitat that was not previously considered, (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered, or (3) a new species is listed or critical habitat designated that may be affected by the Project.

EFH CONSULTATION

The Pacific Fishery Management Council has delineated EFH for Pacific Coast salmon, which includes the action area of the Project. The Project area is located within an area identified as EFH for various life stages of coho salmon and Chinook salmon managed under the Pacific Coast Salmon Fishery Management Plan (FMP) under the MSA. NMFS has evaluated the Project for potential adverse effects to EFH pursuant to Section 305(b)(2) of the MSA. Under the EFH implementing regulations [50 C.F.R. 600.810(a)], the term "adverse effect" is defined as any impact that reduces quality and/or quantity of EFH and may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce quantity and/or quality of EFH.

NMFS has determined that the Project would adversely affect EFH for Chinook salmon and coho salmon. However, the proposed Project contains adequate measures to avoid, minimize, mitigate, or otherwise offset the adverse effects to EFH. Therefore, NMFS has no conservation recommendation to provide. This concludes EFH consultation for the Project. Pursuant to 50 CFR 600.920(l), the FAA must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH.

FWCA CONSULTATION

The purpose of the FWCA is to ensure that wildlife conservation receives equal consideration, and is coordinated with other aspects of water resources development (16 U.S.C. 661). The FWCA establishes a consultation requirement for Federal departments and agencies that undertake any action that proposes to modify any stream or other body of water for any purpose, including navigation and drainage [16 U.S.C. 662(a)]. Consistent with this consultation requirement, NMFS may provide recommendations and comments to Federal action agencies for the purpose of conserving fish and wildlife resources. NMFS has no recommendations to make beyond the methods for avoiding impact already incorporated into the Project design.

Please contact Mr. Zane Ruddy at (707) 825-5173, or via email at zane.ruddy@noaa.gov, if you have any questions regarding these consultations.

Sincerely,

Rodney R. McInnis
Regional Administrator

cc: Chris Yates, NMFS, Long Beach
Copy to File: ARN 151422SWR2009AR00536

U.S Department
of Transportation
**Federal Aviation
Administration**

Western-Pacific Region
Airports Division

San Francisco Airports District Office
831 Mitten Road
Burlingame, CA 94010

January 26, 2011

Ms. Nancy Finley
Field Supervisor
Arcata U.S. Fish and Wildlife Service Office
1655 Heindon Road
Arcata, CA 95521

Dear Ms. Finley:

Hayfork Airport, Hayfork, California Proposed Improvements

The purpose of this letter is to initiate informal Section 7 consultation, under Title 50, Code of Federal Regulations Part 402, and the implementing regulations for the Endangered Species Act of 1973, as amended. The Federal Aviation Administration (FAA) is beginning informal Section 7 consultation of evaluating the potential impacts from extending the existing taxiway, replacing the existing culvert with a new one, grading and brush removal of both runway and taxiway safety areas at Hayfork Airport, Hayfork, California. The County of Trinity (County) is the owner and operator of the airport.

The County proposes to extend the existing 30-foot wide partial parallel taxiway approximately 1,415 feet west to match the full length of the existing runway. The taxiway extension would provide access to the western portion of the airport.

The taxiway will cross Kingsbury Gulch by way of a culvert. The structure would be 6.7 feet high and extend 20 feet beyond the north and south edge of the taxiway pavement. The construction of the structure beneath the proposed taxiway extension will be approximately 120 feet wide and 43 feet long over Kingsbury Gulch.

The runway and taxiway safety areas will be graded and brush removed starting from the existing taxiway end and move west towards Runway 7. The proposed project is shown in the Biological Assessment figure 1-2 of the enclosure.

The County conducted biological surveys in October 2009, May 2010, and July 2010. The data base reviews of spotted owl territory was also conducted in July 2010. The proposed project area is not within designated northern spotted owl (*Strix occidentalis caurina*) critical habitat. The northern spotted owl critical habitat is located 7.3 km (4.5 mi) from the project within the Shasta-Trinity National Forest, which surrounds Hayfork Valley.

Direct effects on northern spotted owls could occur from those activities that (1) result in noise that either disturbs or disrupts a pair of nesting owls causing the nest to be abandoned, or (2) remove suitable nesting, roosting, and foraging habitat.

Based on the largest noise disturbance or disruption distance buffer that may result from these types of activities, the analysis area was defined as 0.4 km (0.25 mi) from the proposed project (See Table 5-1 of the enclosure). The closest northern spotted owl activity center and territory is farther away than the noise disturbance or disruption distance created from the project; therefore, no direct noise effects on northern spotted owls are anticipated to occur.

The proposed project area does not include northern spotted owl nesting or roosting habitat. The area is dominated by herbaceous/meadow and interspersed chaparral/scrub-shrub and riparian forest communities. The proposed project will not remove multi-layered forest canopy structure, large-diameter trees, or snags. The nearest known northern spotted owl activity center and territory are 4.9 km (3 mi) and 4.1 km (2.5 mi), respectively, from the proposed project area.

Because there will be no loss of large nesting or roosting trees, there will be no modification to northern spotted owl nesting or roosting habitat. Although a small number of northern spotted owls may occasionally forage within Hayfork Airport property, it is expected that the species would avoid construction activities and forage in nearby meadow and forest habitat. Therefore, temporary construction activities during the installation of the taxiway would not adversely affect nesting, roosting, or dispersal habitat for the species.

Indirect effects on northern spotted owls could occur from habitat or site-specific effects that may result in reduced availability of prey. Northern spotted owls eat small mammals (e.g., mice). Small mammal burrows are present in the proposed project area. Therefore, construction activities associated with the proposed project could disturb or eliminate small mammal habitat. This could have an indirect effect on foraging juvenile and adult northern spotted owls. However, given that the proposed project is surrounded by similar habitat (chaparral/scrub-shrub and herbaceous/meadow) and a substantial amount of nesting, roosting, dispersal, and foraging habitat is present within the surrounding Shasta-Trinity National Forest, it is unlikely that the small footprint of the proposed project would have any significant effect on prey availability.

Based on these findings, the FAA has determined that the proposed improvements are not likely to adversely affect the northern spotted owl and its designated critical habitat.

If you have any questions or need additional information on this submittal, please contact me at 650-876-2778 ext. 600 or robin.k.hunt@faa.gov. You can also contact Barry Franklin at 650-876-2778 ext. 614 or barry.franklin@faa.gov.

Sincerely,

for Robin K. Hunt
Manager, Airports District Office

Enclosure: Biological Assessment for the Hayfork Airport Runway Safety Area Improvements and Taxiway Extension Projects (North Fork Associates and Wallace Environmental Consulting, Inc., January 2011)

cc: J. Smith, Trinity County Department of Transportation, w/o encl
M. Wallace, Wallace Environmental Consulting, Inc., w/o encl

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arcata Fish and Wildlife Office
1655 Heindon Road
Arcata, California 95521
Phone: (707) 822-7201 FAX: (707) 822-8411

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In Reply Refer To:
AFWO-11B0053-11I0047

FEB 2 2 2011

Ms. Robin K. Hunt
Manager, Airports District Office
Western-Pacific Region,
Federal Aviation Administration (USDOT)
831 Mitten Road
Burlingame, California 94010

Subject: Service Determinations for Northern Spotted Owl in the Proposed Taxiway Extension at the County-Operated Airport in Hayfork, Trinity County, California

Dear Ms. Hunt:

This letter is the response of the Fish and Wildlife Service (Service) to your correspondence of January 26, 2011 requesting informal consultation for a proposed extension of the taxiway at the county-operated airport at Hayfork in Trinity County, California. Attached to your request was the Biological Assessment (BA) for the proposed action prepared by Wallace Environmental Consulting, Inc., North Fork Associates, and Stillwater Sciences, dated January, 2011. The BA evaluated one federally listed species under Service jurisdiction; the northern spotted owl (*Strix occidentalis caurina*). The northern spotted owl (NSO) is listed as Threatened under the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). You have submitted a determination that the proposed action will have no effect on the northern spotted owl or its designated critical habitats. This response was prepared under standards and requirements of section 7 of the Act.

General Comments

Migratory Birds

Table 1-2 identifies seven migratory bird species found in the primary assessment area whose breeding activity may be affected by vegetation removal and construction of the proposed taxiway extension (*Empidonax* spp., *Empidonax difficilis*, *Ixoreus naevius*, *Pheucticus melanocaphalus*, *Melospiza melodia*, and *Zonotrichia leucophrys*). Each species is known to build nests in the lower branches of shrubs or hardwoods or on the ground under overhanging woody branches (*Birds of North America* Online, undated). Such habitat is found at the site of the proposed box culvert at Kingsbury Gulch. Please consider measures to avoid adverse impacts on migratory bird breeding activity; for example, by clearing woody vegetation within the construction footprint during the non-breeding period prior to the construction season.

Floodplains and Wetlands

Kingsbury Gulch is an intermittent streambed wetland (Cowardin, et al., 1979) within a 100-year floodplain (BA, Figure 1-2). Please assure that the Final Environmental Assessment is consistent with the environmental planning and procedural requirements in Executive Orders 11988 (*Protection of Floodplains*) and 11990 (*Protection of Wetlands*), both issued May 24, 1977. We note that certain proposed design features, such as the natural-bottom box culvert and the dry season timeframe for construction, will be helpful in conserving beneficial uses of this wetland.

The Service's Section 7 Determination

The Service concurs with your January 26, 2011 determination that the proposed action is not likely to adversely affect the northern spotted owl or its habitats, on or near the project site. The specific reasons for our concurrence are outlined below.

The Proposed Action and Site Location

The proposed action consists of a 1,415 foot westward extension of the taxiway running parallel to, and north of, runway number 7-25 at the county-operated airport in the community of Hayfork in Trinity County, California. The existing taxiway only serves the eastern 2,700 feet of the runway. With the proposed extension, the entire taxiway will match the full length of the runway. Construction will require a two-span, open-bottom culvert at Kingsbury Gulch. Under the Public Lands Survey System, the project site is located within the south half of Sections 11 and 12 in Township 31 North, Range 12 West, Mt. Diablo Meridian.

Basis for the Determination

(1) The proposed action will not affect any designated critical habitat for the NSO. The nearest designated critical habitat is 4.5 miles from the project site. (2) The proposed action will not result in the removal of any vegetative elements of NSO habitat. The approximate amounts of

land clearing are as follows: 0.98 acre graded and paved for the taxiway; 0.65 acre graded and cleared of vegetation on both sides of the taxiway as an inner safety zone; and 1.3 acres cleared of vegetation on both sides of the taxiway as an outer safety zone. Total area to be cleared is 2.93 acres. Affected vegetation is grassland, shrubland, and riparian broadleaf trees. (3) The nearest known NSO reproductive sites are not susceptible to noise disturbance from the proposed action. There are thirteen known reproductive sites within five miles of the project area. The nearest and furthest sites from the project area are 3.11 and 4.71 miles, respectively. The longest distance used by this office as a noise disturbance threshold is 0.25 mile.

Conclusion

This concludes the Service's informal consultation for the proposed taxiway extension at the county-operated airport at Hayfork in Trinity County, California. Further action under section 7 of the Act by the Federal Aviation Administration is not necessary unless changed conditions occur in connection with the proposed action. Examples of changed conditions include: new scientific information indicating that the proposed action may affect listed species in a manner or to an extent not previously considered; modification of the proposed action in a manner that causes effects to listed species not previously considered; and listing of new species or designation of new critical habitat that may be affected by the proposed action. See Part 402.16 in Title 50 of the U.S. Code of Federal Regulations for more details on changed conditions. Please contact John Peters at (707) 822-7201 if you have questions regarding this correspondence.

Sincerely,

Nancy J. Finley
Field Supervisor

References:

Birds of North America, online edition (http://bna.birds.cornell.edu). 2011. American Ornithologists' Union, Cornell Laboratory of Ornithology and Academy of Natural Sciences. Ithaca, NY.

Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, Washington, DC, and Northern Prairie Wildlife Research Center, Jamestown, ND.

Subject: FW: Hayfork Airport NWP 14 (UNCLASSIFIED)
From: "Jan Smith" <jsmith@trinitycounty.org>
Date: Tue, 7 Feb 2012 10:01:26 -0800
To: "Meghan Wallace" <meghan@wallaceenvironmental.com>, <Barry.Franklin@faa.gov>

This is email correspondence with the Corps regarding the use of NWP 14 for a taxiway extension. David Ammerman of the Eureka Field Office (now retired) copied Jane Hicks and Roberta Morganstern at the San Francisco Corps to verify this. They never responded, indicating that they did not disagree with David's interpretation. Should I pursue this further?

Jan

-----Original Message-----
From: Ammerman, David A SPN [mailto:David.A.Ammerman@usace.army.mil]
Sent: Friday, November 05, 2010 9:20 AM
To: Jan Smith
Cc: Morganstern, Roberta A SPN; Hicks, Jane M SPN
Subject: RE: Hayfork Airport NWP 14 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jan -

The text of NWP 14 states it authorizes the construction, expansion, modification or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways and taxiways) in waters of the United States. Limits the impact under this NWP to 1/2 acres and my reading of this says you can qualify for this NWP. Anybody who disagrees chime in, but I strongly feel that the existing taxiway is being extended and is not technically a completely new feature and qualifies for this NWP. It does NOT authorize non-linear structures such as hangars or control towers. Apparently there is a dumb distinction between linear horizontally or vertically. Only for an attorney to make it complicated.

In short, go ahead and apply for NWP 14...a fall back is NWP 39 for institutional facilities... Dave

-----Original Message-----
From: Jan Smith [mailto:jsmith@trinitycounty.org]
Sent: Friday, November 05, 2010 9:10 AM
To: Ammerman, David A SPN
Subject: Hayfork Airport NWP 14

Hi, Dave,

It has come to my attention that there is a Regional Condition in the SF District prohibiting the use of NWP 14 for "new airport runways and taxiways". The Hayfork project is an extension of an existing taxiway. Can you find out if we can use NWP 14 for that, in this type of habitat?

Thanks,

Jan

Classification: UNCLASSIFIED
Caveats: NONE

APPENDIX E

Land Use Assurance Letter

TRINITY COUNTY
DEPARTMENT OF TRANSPORTATION
P.O. BOX 2490, WEAVERVILLE, CALIFORNIA 96093
PHONE (530) 623-1365 FAX (530) 623-5312
Email; tcdot@trinitycounty.org

June 20, 2011

Mr. Barry Franklin
Environmental Protection Specialist
Federal Aviation Administration
San Francisco Airports District Office
831 Mitten Road, Room 210
Burlingame, CA 94010

Subject: *Land Use Assurance for Hayfork Airport*

Dear Mr. Franklin:

Trinity County provides assurance that appropriate action, including the enforcement 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 Hayfork Airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. This action includes the consideration of both existing and planned land uses.

Hayfork Airport is located in unincorporated Trinity County, California, in the community of Hayfork. The designation of land uses in the vicinity of the airport is the responsibility of Trinity County. The County has established comprehensive, long-term land use goals and policies for the community of Hayfork in the *Hayfork Community Plan* (1996). The Community plan designates Airport Safety Areas and specifies land use restrictions within those areas in the vicinity of the airport. Specific project proposals and zoning ordinances are required to be consistent with the adopted Community Plan and Trinity County General Plan.

In addition, an Airport Land Use Compatibility Plan (ALUCP) was adopted by Trinity County in November 2009. The Trinity County ALUCP promotes compatibility between the County's five general aviation airports, including Hayfork Airport, and the land uses that surround them by establishing compatibility zones and associated development standards. The Airport Land Use Commission has a responsibility to review proposed development plans (airport master plans and layout plans) for these airports, as well as development plans within the compatibility zones surrounding the airports to ensure consistency with the ALUCP.

Trinity County will continue to work with the community of Hayfork to ensure that the land uses in the immediate vicinity of the airport are compatible with the airport, and are in keeping with the land uses described in the ALUCP.

Please let us know if you have any questions or if you need additional information.

Sincerely,

Richard Tippett
Director, Trinity County Department of Transportation & Planning

APPENDIX F

Affidavit of Publication

Affidavit of Publication

No.

{ T.C. Department of Transportation
P.O. Box 2490
Weaverville, CA 96093-2490
{

STATE OF CALIFORNIA
SS.
COUNTY OF TRINITY

Wayne R. Agner of the said County, being duly sworn, deposes and says:

That he is and at all times herein mentioned was a citizen of the United States, over the age of twenty-one years and that he is not a party to, nor interested in the above entitled matter;

That he is the publisher of The Trinity Journal, a newspaper of general circulation published in the Town of Weaverville, County of Trinity, and which newspaper at all times herein mentioned had and still has a bona fide subscription list of paying subscribers, and which newspaper has been established, printed and published at regular intervals in the said Town of Weaverville, County of Trinity, for a period exceeding one year next preceding the date of publication of the notice hereinafter referred to; and which newspaper is not devoted to nor published for the interests, entertainment or instruction of a particular class, profession, trade, calling, race, or denomination, or any number of same; that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

September 14, 2011

I hereby certify under penalty of perjury that the foregoing is true and correct. Executed at Weaverville, California, on the fourteenth day of September, 2011.

Wayne R Agner
WAYNE R. AGNER
Publisher

AFFIDAVIT OF PUBLICATION OF

PUBLIC NOTICE
"Notice of Availability Draft Environmental (EA) Hayfork Airport Taxiway Extension Project BY TRINITY JOURNAL

NOTICE OF AVAILABILITY DRAFT ENVIRONMENTAL ASSESSMENT (EA) HAYFORK AIRPORT TAXIWAY EXTENSION PROJECT

Trinity County, in cooperation with the Federal Aviation Administration (FAA) has completed a Draft Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) for the project described below.

PROJECT TITLE:
Hayfork Airport Taxiway Extension Project

PROJECT PROPONANT:
Trinity County Department of Transportation; Federal Aviation Administration

PROJECT LOCATION:
The project is located in the western portion of the Hayfork Airport. The airport is located within portions of sections: 11 & 12 of Township 31 North, Range 12 West, in Hayfork, Trinity County, California.

PROJECT DESCRIPTION:
Trinity County proposes to extend the taxiway at the Hayfork Airport. A 30-foot wide partial parallel taxiway currently serves the eastern two-thirds of the runway, a length of approximately 2,700 feet. The proposed taxiway extension would extend the taxiway approximately 1,415 feet to the west, to match the full length of the existing runway. The taxiway extension provides a full-length northern parallel taxiway for access to the western portion of the airport. A culvert structure with an open bottom serving to carry the taxiway and provide fish passage would be constructed where the taxiway extension crosses Kingsbury Gulch, just west of the existing end of the taxiway.

In addition, Trinity County proposes to grade and improve the Runway Safety Area (RSA) at the end of Runway 7 to meet Federal Aviation Administration RSA design standards. Currently, the ground in the RSA is uneven and brush is present. The area of the RSA to be graded and cleared extends 240 feet west of the end of Runway 7 and 120 feet north and south centered on the runway centerline.

Per federal Executive Orders 11990 (pertaining to wetlands) and 11988 (pertaining to floodplain involvement), public notice is hereby given that the above referenced project would be located within jurisdictional wetlands and would encroach upon the floodplain of Kingsbury Gulch. The project will also affect (but is not likely to adversely affect) Southern Oregon/ Northern California Coho Salmon or its Critical Habitat.

REVIEW AND COMMENT PERIOD:
Public Agencies and interested members of the public may review and comment on the Draft EA between September 14, 2011 and October 14, 2011. The Draft EA and appendices may be viewed at the Hayfork Branch Library at Highway 3 and Hyampom Road, Hayfork; Trinity County Department of Transportation at 31301 State Highway 3, Weaverville; or on line at the County's Transportation/ Airports Division web page at http://www.trinitycounty.org/Departments/Transportation/airport1.htm.

Comments may be sent to the Trinity County Department of Transportation, Attention: Jan Smith, P.O. Box 2490, Weaverville, CA 96093, (530) 623-1365, or email to jsmith@trinitycounty.org, by 5:00 p.m. on the last day of the review period.

Sept. 14, 2011

APPENDIX G

Public Comments and Responses

Response to Comments

The FAA received one comment letter in response to the Environmental Assessment (EA) for the Hayfork Airport Taxiway Extension Project. The Comment Letter was from the North Coast Regional Water Quality Control Board (NCRWQCB); a copy is attached.

NCRWQCB Comment #1: Use of Low Impact Development (LID) and Best Management Practices to treat and retain stormwater runoff on the project site are required.

Response: Best Management Practices are included in the conservation measures of sections 4.2.1, 4.2.2, and 4.2.3 of the EA. The BMPs suggested by NCRWQCB "to prevent erosion and the release of sediment or hazardous materials during construction activities" are included in Conservation Measures 4.2.2.1 and 4.2.3.2. The soil on the airport property and in the project area consists mainly of extremely gravelly loamy sand which is "somewhat excessively drained."[1] Runoff is slow in this type of soil and the hazard of water erosion is slight. The highly permeable soils surrounding the taxiway have the capacity to absorb the small amount of additional runoff from the new impermeable surface of the taxiway without significantly increasing runoff. Due to FAA safety regulations, vegetation must be cleared along runways and taxiways; some of the LID strategies involving vegetation cannot be implemented during construction of the taxiway extension. However, use of BMPs will help offset runoff, erosion and the release of sediment during construction activities along the runway and taxiway.

NCRWQCB Comment #2: The potential loss of 0.03 acres of wetlands due to the project must be fully mitigated.

Response: The loss of wetlands cannot be avoided due to the specific location of the taxiway in relation to the existing runway. Sections 4.2.1 and 4.2.3 of the EA discuss conservation measures for potential project impacts to water quality and wetlands. Implementation of conservation measure 4.2.3.1 would offset impacts to jurisdictional waters of the US and the State.

NCRWQCB Comment #3: Impacts to wetlands and waters of the State must be permitted and mitigated. All efforts to avoid impacts must be fully exhausted.

Response: Please see response to Comment #1. Other than the No Action Alternative, there is no other project alternative that will avoid impacting wetlands and Kingsbury Gulch and meet the purpose and need for the Taxiway Extension Project. Trinity County will secure and comply with the conditions of a Section 404 of the Clean Water Act permit. This project will fall under a Nationwide Permit 14 for linear transportation crossings. Trinity County will also provide compensatory mitigation and obtain a Section 401 Water Quality Certification. In addition, the County will enter into a Streambed Alteration Agreement (Section 1600) with CDFG.

[1] Natural Resources Conservation Service (NRCS), 1998. *Soil Survey of Trinity County, California, Weaverville Area.* U.S. Department of Agriculture, January 1998.

NCRWQCB Comment #4: Recommend minimum setback of 100 feet from riparian habitat.

Response: The proposed project includes construction of an open bottom culvert structure over Kingsbury Gulch. It is not possible to implement a 100 foot buffer or setback from Kingsbury Gulch. FAA safety regulations preclude addition of riparian trees in the vicinity of the runway or taxiway. As discussed above and in Sections 4.2.1 and 4.2.3 of the EA, Trinity County will secure and comply with the conditions of a Section 404 of the Clean Water Act permit, provide compensatory mitigation and obtain a Section 401 Water Quality Certification from the Regional Water Quality Control Board. The County will also enter into a Streambed Alteration Agreement (Section 1600) with CDFG.

NCRWQCB Comment #5: Construction General Stormwater Permit may be required by NCRWQCB

Response: As discussed in Conservation Measure 4.2.1 in the EA, Trinity County will apply for, and comply with the conditions of, a construction general stormwater permit.

NCRWQCB Comment #6: Water Quality Certification (401 Certification) may be required by NCRWQCB

Response: As discussed in Conservation Measure 4.2.3.1 in the EA, Trinity County will apply for, and comply with the conditions of, a state 401 permit and a 404 permit.

California Regional Water Quality Control Board
North Coast Region
Geoffrey M. Hales, Chairman

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Matt Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

October 14, 2011

Ms. Jan Smith, Senior Environmental Compliance Specialist
Trinity County Department of Transportation
P.O. Box 2490
Weaverville, CA 96093

Dear Ms. Smith:

Subject: Comments on the Hayfork Airport Taxiway Extension Project

Thank you for the opportunity to comment on the Hayfork Airport Taxiway Extension Project (the project). The North Coast Regional Water Quality Control Board (Regional Water Board) is a responsible agency for this project, with jurisdiction over the quality of ground and surface waters (including wetlands) and the protection of the beneficial uses of those waters.

The proposed project consists of extending the taxiway at the Hayfork Airport by 1,415 feet to the west. Where the taxiway extension crosses Kingsbury Gulch a culvert structure would be constructed with an open bottom. Also, a total of 240 feet west of the end of runway 7 and 120 feet north and south of the Runway Safety Area are proposed to be graded and improved.

We have the following comments:

The potential loss of 0.03 acres of wetlands due to the taxiway extension of the proposed project must be fully mitigated. The proposed project may result in adverse impacts to waters of the State, unless properly mitigated.

Storm Water and Low Impact Development:
The Regional Water Board requires the use of Low Impact Development (LID) and Best Management Practices (BMPs) that treat and retain (infiltrate, capture, evapotranspirate and store) storm water runoff on the project site.

LID is a development site design strategy with a goal of maintaining or reproducing the pre-development hydrologic system through the use of design techniques to create a functionally equivalent hydrologic setting. LID emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to

more closely reflect pre-development hydrologic functions. Hydrologic functions of storage, infiltration, and ground water recharge, as well as the volume and frequency of discharges, are maintained through the use of integrated and distributed storm water retention and detention areas, reduction of impervious surfaces, and the lengthening of flow paths and runoff time. LID seeks to mimic the pre-development site hydrology through infiltration, interception, reuse, and evapotranspiration. LID requires that the storm water runoff volume from small storms be retained onsite.

Other LID strategies include the preservation and protection of environmentally sensitive site features such as riparian buffers, wetlands, steep slopes, valuable trees, flood plains, woodlands, native vegetation and permeable soils. Natural vegetation and soil filters storm water runoff and reduces the volume and pollutant loads of storm water runoff. Other benefits from LID implementation include reducing global warming impacts from new development (preserving carbon sequestering in native soils and retaining native vegetation), increasing water supply (by encouraging ground water recharge) and reducing energy consumption.

LID requires the use of landscape-based BMPs that filter storm water runoff using vegetation and amended soil prior to infiltration. Examples of these types of BMPs are rain gardens and vegetated swales. LID BMPs need to be sized to treat the storm water runoff from all impervious surfaces (e.g. roads, roofs, walkways, patios) using the following sizing criteria:

1. The volume of runoff produced from the 85th percentile of 24-hour rainfall event, as determined from the local historical rainfall record; or

2. The volume of runoff produced by the 85th percentile 24-hour rainfall event, determined using the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, p. 170-178 (1998); or

3. The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in California Storm Water Best Management Practices Handbook-Industrial/Commercial (1993).

BMPs to prevent erosion and the release of sediment or hazardous materials during construction activities should be included in the subsequent environmental review documents to prevent sediment and other pollutants reaching surface waters or leaving the site in storm water runoff. These can include scheduling grading to take place during the dry season, identifying staging areas for work vehicles that are separated from sensitive areas, training employees in procedures for cleaning up spills of hazardous materials, and erosion and sediment control techniques.

Wetlands and Waters of the State:
Any adverse impacts to, or loss of, natural or constructed wetlands and their beneficial uses due to development and construction activities must be fully permitted and mitigated. Impacts to waters of the State should first be adequately evaluated to determine if the impacts can be avoided or minimized. All efforts to first avoid and second to minimize impacts to waters of the State must be fully exhausted prior to deciding to mitigate for their loss. If a project's impacts to waters of the State are deemed unavoidable, then compensatory mitigation (for acreage, function and value) will be necessary for any unavoidable impacts.

Riparian Habitat
Individual stream and wetland systems are part of complete aquatic ecosystems through interaction of surface and subsurface hydrologic connections, healthy systems perform functions that protect and enhance watershed-wide water quality. In addition, surface waters provide habitat that supports a variety of plant and animal life for rare and endemic species. Riparian areas between streams and wetlands and their adjoining environments play critical roles in protecting and enhancing water quality. An important tool for reducing and avoiding impacts to surface waters is the implementation of a buffer area of native and riparian vegetation between any construction activities or structures and surface waters.

The Regional Water Board and the United States Environmental Protection Agency (EPA) recommend a *minimum* setback of 100 feet from the top of bank of a stream, watercourse or the edge of a wetland. The project should delineate buffer zones of at least 100 feet for all perennial and seasonal surface waters. Setbacks should be vegetated and undisturbed or enhanced with native plants. Please be aware that disturbance to waters of the State require permitting from this agency.

The following project permits may be required by our agency:

Construction General Storm Water Permit:
Land disturbances on projects of one acre or more require coverage under the construction general storm water permit. If the land disturbance will be one acre or more, the owner of the property will need to apply for coverage under this permit prior to the commencement of activities on-site. This permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) that identifies BMPs to implement and maintain to minimize pollutant discharges from a construction site. The permit also requires a risk level analysis for the project based on erosion risk and sensitivity of the receiving waters, inspections of construction sites before and after storm events, and every 24 hours during extended storm events, storm event monitoring, and electronic document and data submittal. The permit requires the use of Low Impact Development to treat post-construction storm water runoff from impervious surfaces. Owners may find the permit at http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml.

Water Quality Certification (401 Certification):
Permit issued for activities resulting in dredge or fill within waters of the United States. All projects must be evaluated for the presence of jurisdictional wetlands and other waters of the state. Destruction of or impacts to these waters should be avoided. Under the Clean Water Act Sections 401 and 404, disturbing wetlands requires a permit from the United States Army Corps of Engineers (ACOE) and a state 401 permit. To determine whether wetlands may be present on any proposed construction site, please contact Jane Hicks of ACOE at (415) 503-6771. If wetlands are present, please contact Mark Neely from our office at (707) 576-2689 for a 401 Permit or other permit action

If you have any questions or comments, please contact Mona Dougherty at (707) 570-3761 or mdougherty@waterboards.ca.gov .

Sincerely,

Rachel Prat
Environmental Scientist

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APPENDIX H

Construction Emissions

Construction Emissions

Construction would include grubbing/clearing, excavation and grading, using both heavy duty and light-duty construction equipment. Specific equipment to be utilized may include, but is not limited to, track-mounted excavators, dump trucks, backhoes, graders, compactors and dozers. Based on construction equipment to be used on the project, Table 1 summarizes construction emissions.

Table 1: Construction Emissions in Pounds per Day

	Carbon Monoxide	Lead	Nitrogen dioxides	PM-10	PM-2.5
Grading [3-7 days]	13.42	na	23.52	9.67	2.86
Paving [[3-7 days]	2.67	na	13.14	1.07	0.97

Values estimated from Urbemis Model, 2007 Version 9.2.4