

July 1, 2009

Chief of the Arizona Section
Department of the Army
Los Angeles District, Corps of Engineers
Regulatory Branch
Arizona-Nevada Area Office
3636 North Central Avenue, Suite 900
Phoenix, Arizona 85012-1936

Re: Request for a Jurisdictional Determination for the Proposed Extension of Scott Ranch Road within the City of Show Low, Navajo County, Arizona.

Project Name: Scott Ranch Road
USACE Application No.: Not assigned

Dear Chief:

With this attachment, the City of Show Low (Permittee) is requesting the US Army Corps of Engineers (USACE) delineate the "waters of the United States" (Waters) which may be affected by dredge or fill activities associated with the proposed extension of Scott Ranch Road. As part of this proposed project, the City of Show Low plans to construct a new bridge over Show Low Creek, as a means to connect Scott Ranch Road with Penrod Road to the east.

Logan Simpson Design Inc. conducted an on-site jurisdictional delineation for the presences of Waters, including wetlands, within the project area on October 1, 2008 and June 4, 2009. One wash, Show Low Creek, and an adjacent wetland, were identified during the survey. The proposed jurisdictional limits of the wash were determined based on the vegetation difference between wash and upland, change in soil characteristics, waterline mark on the bank, water stains, shelving or cut banks, exposed roots, sediment deposits, and presence of litter or debris. Wetlands were determined by assessing the presence or absence of hydrophytic vegetation, wetland hydrology, and hydric soils, per the parameters outlined in the 1987 *Corps of Engineers Wetland Delineation Manual*, and the 2008 *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*.

The project area is located within the Silver Creek Watershed (HUC 15020005) of the Lower Colorado River Basin. Show Low Creek flows into Silver Creek, which flows into the Little Colorado River. The Little Colorado River flows into the Colorado River, a Traditional Navigable Water.

The survey area is centered at latitude 34.200522° north / longitude 110.004764° west (UTM 3,784,837.55 mN / 591,693.08 mE Zone: 12S, NAD83) along an extension of the Scott Ranch Road alignment east of State Route 260 and approximately 0.25 miles north of Show Low Lake, Navajo County, Arizona. Refer to USGS 7.5' Quadrangles: *Lakeside, AZ*. (1998) and *Show Low South, AZ*. (1998).

For your review, we have provided a Jurisdictional Delineation Report. This report includes: a State Location Map, a Project Vicinity Map, a Floodplain Map, a Topographic Map, Jurisdictional Delineation

Chief
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Figures with photo and sampling points, ground photographs, Waters summary tables, USACE Data Sheets, and a USACE Approved Jurisdictional Determination Form.

Please contact me at (928) 532-4081, if you have any questions, comments or require additional information.

Sincerely,

Bill Kopp, PE
City Engineer
City of Show Low

CC: Wayne Colebank, Logan Simpson Design, Inc.

Section 404 Jurisdictional Delineation Report
Scott Ranch Road
July 2009

Introduction

The City of Show Low is proposing to extend Scott Ranch Road from its current termination point, approximately 0.11 miles east of State Route (SR) 260, eastward to connect with Penrod Road. The proposed extension will allow Scott Ranch Road to serve as a connector between SR 260 and Penrod Road, creating a SR 260 bypass. The proposed project will involve construction of a bridge over Show Low Creek. This report is intended to document and support a jurisdictional determination of the project area for “waters of the United States” (Waters), as outlined by the United States Army Corps of Engineers (USACE).

Project Area Description

The project area extends eastward from the current termination of Scott Ranch Road to Penrod Road, near Show Low Lake in Navajo County, Arizona. The survey boundary is approximately 100 feet wide and is bisected by Show Low Lake Road and Show Low Creek. The project area is located within the Silver Creek Watershed (HUC 15020005) of the Lower Colorado River Basin. The survey area is centered at latitude 34.200522° north / longitude 110.004764° west (UTM 3,784,837.55 mN / 591,693.08 m E Zone: 12S (NAD83) approximately 0.25 miles north of Show Low Lake, Navajo County, Arizona. The project area is located in Sections 3, 4, and 9 of Township 9 North, Range 22 East. Refer to USGS 7.5' Quadrangles: *Lakeside, AZ* (1998), and *Show Low South, AZ*. (1998). See Appendix A for project location and detail maps.

The topography of the project area is relatively flat with an average elevation of approximately 6,500 feet above mean sea level within the Transitional Physiographic Province (Hendricks, 1985). Show Low Creek bisects the project area flowing northeasterly, creating a canyon with steep drop-offs to the creek and defining the historic creek channel.

The project area is primarily upland in nature and is characterized by the pine series of the Petran Montane Conifer Forest biotic community (Turner and Brown, 1994). Dominant upland species consist of Ponderosa pine (*Pinus ponderosa*), Alligator juniper (*Juniperus deppeana*), and New Mexico locust (*Robinia neomexicana*). In addition to upland areas, Show Low Creek and adjacent wetland areas are located within the project area. The wetlands within the project area have a National Wetlands Inventory (NWI) classification of Palustrine Emergent Wetland and consist of wetland plant species such as tufted hairgrass (*Deschampsia caespitosa*), broom sedge (*Carex scoparia*), fox sedge (*Carex vulpinoidea*), and scouringrush horsetail (*Equisetum hyemale*).

Soils in the project area are composed of the Overgaard-Elledge-Telephone Association. These soils are shallow to deep, gravely and cobbly, moderately coarse to fine textured, undulating to very steep soils on mountains and hills. They are well-drained soils on the forested highlands along the Mogollon Rim and the deeply dissected breaks along the Rim's south edge. These soils are characterized by moderate to shallow depth to bedrock and slow permeability. The minor included soils along drainageways consist of Lynx, Tours, and Jocity. Lynx, Tours, and Jocity soils are all deep, well drained, and occur on alluvial fans and floodplains with slopes of 0 to 5 percent. Lynx soils typically have a 2-inch top layer of grayish brown loam, and the next layer of approximately 60 inches is brown and dark grayish brown light clay loam, possibly thinly stratified with gravely sandy loam at lower depths. Tours soils typically have a top layer of reddish brown clay loam to a depth of approximately 10 inches, overlying 60 inches of reddish brown, stratified clay loam, light clay loam, and silty clay loam. Jocity soils typically have a top layer of reddish

gray sandy clay loam to a depth of approximately 9 inches, overlying reddish gray sandy clay loam 32 inches thick over gray fine sandy loam 28 inches thick (Hendricks, 1985).

Methodology

Prior to undertaking a site survey, an office review of available aerial photographs, floodplain maps, soil maps, topographic maps, NWI Maps, hydrological data, and other historic information was carried out in order to assist with the field identification of possible Waters, including wetlands, within the project area.

On October 1, 2008 and June 4, 2009, Logan Simpson Design Inc. conducted an on-site jurisdictional delineation for the presence of Waters, including wetlands, within the survey area. The jurisdictional delineation for washes and wetlands was conducted in accordance with the 2008 USACE *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*, the 1987 *Corps of Engineers Wetland Delineation Manual*, and the 2008 *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast* (Interim Regional Supplement).

Jurisdictional washes were determined by assessing the presence or absence of an Ordinary High Water Mark (OHWM). Characteristics of the OHWM include, but are not limited to, vegetation difference between wash and upland, change in soil characteristics, waterline mark on the bank, water stains, shelving or cut banks, exposed roots, sediment deposits, and presence of litter or debris. Upstream and downstream photographs were taken of Show Low Creek and photograph locations were recorded and mapped.

The wetland delineation was completed by assessing the presence of hydrophytic vegetation, hydric soil, and wetland hydrology at thirteen sample points within or adjacent to the project area. Sample points were established in each identified vegetative community and evaluated for wetland characteristics. Data for each sample point were recorded on a USACE *Wetland Determination Data Form-Western Mountains, Valleys, and Coast Region*. Additionally, photographs were taken of the vicinity of each sample point, and their locations identified on aerial maps. Wetland characteristics at each sample point were evaluated using the following methodology:

- The vegetation at each sample point was assessed for each identified stratum (herb, sapling/shrub, and/or tree) within a six-foot radius for herbaceous plants, and a thirty-foot radius for trees and saplings/shrubs. The percent cover was determined by estimating area cover of each species within each stratum. The indicator status of each species was then determined by using the *USFWS National List of Plant Species that Occur in Wetlands, Region 7, 1988*. If greater than 50 percent of the total dominant plant species within all strata was obligate (OBL), facultative-wet (FACW), or facultative (FAC), or if the prevalence index was less than or equal to 3.0, the sample point was determined to meet the hydrophytic vegetation wetland parameter.
- Soils were evaluated by digging a pit approximately 20-inches in depth at the sample point. The soil was then cut to profile to evaluate characteristics such as color, texture, and moisture at various depths, as well as the presence of hydric soil indicators such as redox features or hydrogen sulfide. If the soil characteristics met the criteria for any of the hydric soil indicators, the sample point was determined to meet the hydric soil wetland parameter.
- Hydrology was determined by observation of indicators such as saturation, high water table, sediment deposits, water-stained leaves, and drift deposits at each sample point. If at least one primary hydrology indicator or at least two secondary indicators were identified, the sample point was determined to meet the wetland hydrology parameter.

Jurisdictional Delineation Results

The site visit confirmed that the 2007 aerial photographs utilized for the Jurisdictional Delineation accurately depict the current condition of the project area (Appendix A, Figures 5a-5f). One wash, Show Low Creek (Wash 1), was identified within the project area during the site visit as exhibiting physical characteristics of Waters. Additionally, a wetland adjacent to either side of Wash 1 (Wetland 1) was identified as having all three required wetland characteristics (hydrophytic vegetation, hydric soil, and wetland hydrology). Please refer to Appendix B for summary tables of jurisdictional characteristics for the wash and wetland.

Show Low Creek (Wash 1) is considered a Relatively Permanent Water due to the presence of flow greater than 3 months during each year, according to hydrological information provided by a Stream Gauge Table for Show Low Creek (see Appendix C for the Stream Gauge Table). Through a combination of snow melt, natural springs, precipitation events, and flow from upstream tributaries, Show Low Creek experiences consistent flow capable of ponding and/or flooding its historic channel for 14 or more consecutive days during the growing season in most years. In addition, repeated direct hydrological observations confirm that this portion of Show Low Creek can be classified as a perennial stream under current USACE guidelines, as it possesses flow year-round. Show Low Creek flows into Silver Creek which flows into the Little Colorado River which flows into the Colorado River, a Traditional Navigable Water. The bottom of Show Low Creek is mainly a cobble composition, and riffle and pool complexes were noted within and adjacent to the project area. The main indicators of Waters observed for Wash 1 were: vegetative difference between wash and upland, change in soil characteristics, waterline mark on the bank, water stains, shelving and cut banks, exposed roots, sediment deposits, and presence of litter or debris. Based on a combination of these criteria, a jurisdictional width of 10-35 feet is recommended. Please refer to Appendix D for Ground Photographs of Show Low Creek.

Wetland 1 (W1) is located on the banks of Show Low Creek (Wash 1) and is classified as Palustrine emergent wetland. W1 is approximately 0.222 acres in size and extends beyond the project area to the southwest and northeast on both sides of Show Low Creek. The wetland area on the northwest bank of the creek is a fringe wetland with a narrow margin of indicator species which quickly transitions into a rocky outcropping upon which Canyon grape (*Vitis arizonica*) and Alligator juniper (*Juniperus deppeana*) occur in abundance. The wetland area on the southeast bank of the creek is located within a floodplain terrace and lacks the sudden rocky upland transition of the northwest bank.

W1 is dominated by a variety of wetland indicator plant species. Dominant vegetation within the wetland consists of wetland indicator species such as tufted hairgrass (*Deschampsia cespitosa*), fox sedge (*Carex vulpinoidea*), broom sedge (*Carex scoparia*), and scouringrush horsetail (*Equisetum hyemale*). A dominance test of plant species indicates that greater than 50 percent of dominant plant species are considered either OBL, FACW and/or FAC in the vicinity of all sample points within W1. In addition, the prevalence index was less than or equal to 3.0 for each of the sample points within W1, which signifies that wetland indicator plant species are dominant. Based on the fact that the plant community within W1 passes the dominance test and the prevalence test, the vegetation within W1 is considered hydrophytic.

Primary indicators of wetland hydrology were observed within W1. Primary indicators such as surface water, soil saturation, sediment and drift deposits, and aquatic invertebrates were observed during the field reconnaissance and provide evidence that adequate inundation and/or saturation has occurred and conditions have been sufficient to produce a characteristic wetland vegetative community and hydric soil morphology.

Hydric soils are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions near the surface (USDA Soil Conservation Service, 1994). Soils within W1 meet the definition of a hydric soil since flows from Show Low

Creek flood the surrounding floodplain terrace for 14 or more consecutive days during the growing season in most years, and redox concentration mottling (an anaerobic condition) was observed at the majority of the sample points within W1. However, the soils do not exhibit any of the indicators as described in Chapter 3 of the Interim Regional Supplement and are therefore classified as Problematic hydric soils. The presence or absence of hydric soils was determined through the use of the procedure outlined in Chapter 5 of the Interim Regional Supplement for Problematic hydric soils, which includes the verification of 1) hydrophytic vegetation indicators, 2) wetland hydrology indicators, 3) documentation of soil profile and landscape setting, and 4) determination of hydric soils.

Hydrophytic vegetation and wetland hydrology are present within W1, as discussed above. The soil profile of the wetland area on the southeast bank of Show Low Creek is characterized by silty clay, with a rocky substrate present on the northwest bank. The landscape setting within W1 has the following characteristics: a concave surface at the location of the stream bed, located within an active floodplain, a nearly level area with a majority of the project area possessing a gradient of 0%–3%, located adjacent to a cliff face, located adjacent to a water body (Show Low Creek), and has places with groundwater discharges. The soil profile and landscape setting provides excellent conditions for the concentration of water to Show Low Creek. Finally, W1 exhibits hydrological characteristics, as shown by stream gauge data from USGS between 1956 and 2005 (Appendix C). According to the stream gauge data, Show Low Creek experiences consistent flow capable of ponding or flooding its historic channel for 14 or more consecutive days during the growing season in most years. In conclusion, the recommended procedure for identifying problem soils confirmed that soils within W1 are hydric through the presence of dominant hydrophytic vegetation, primary wetland hydrology indicators, an adequate soil profile and landscape setting, and hydrological observations. Discussion of the presence or absence of hydric soils for each sample point is included on the Wetland Determination Data Forms (Appendix F).

W1 meets the required parameters for hydrophytic vegetation, wetland hydrology, and hydric soils as outlined in the Interim Regional Supplement, and should therefore be considered jurisdictional. Please refer to Appendix D for Ground Photographs of Wetland 1 and Appendix E for Test Pit Photographs.

Summary

In summary, one wash (Show Low Creek, Wash 1) and one wetland (W1) were noted within the proposed project area. The wash and wetland identified meet the definition of Waters and should be considered jurisdictional. A completed USACE Approved Jurisdictional Determination Form can be found in Appendix G.

References

- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1*. US Army Corps of Engineers Waterway Experiment Station. Vicksburg,
- Hendricks, D.M. 1985. *Arizona Soils*. A Centennial Publication of the College of Agriculture, University of Arizona, Tucson, Arizona.
- Reed, P.B. 1988. *National List of Plant Species that Occur in Wetlands: NERC-88/18.40*. Department of the Interior. U.S. Fish and Wildlife Service, Washington, D.C.
- US Army Corps of Engineers and Environmental Protection Agency, May 2007. "U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook."
- US Army Corps of Engineers. April 2008. *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*. Environmental Laboratory, ERDC/EL TR-08-13. US Army Engineer Research and Development Center.
- US Army Corps of Engineers. 2008. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*. Cold Regions Research and Engineering Laboratory. ERDC/CRREL TR-08-12. US Army Engineer Research and Development Center.
- US Department of Agriculture Soil Conservation Service. 1994. *Changes in hydric soils of the United States. Federal Register 59(133): 35680-35681, July 13, 1994.*
- US Geological Survey. 2009. *USGS Surface-Water Monthly Statistics for Arizona: USGS 09392000 SHOW LOW CR BL JAQUES DAM, NR SHOW LOW, AZ.*

APPENDIX A

Maps and Figures

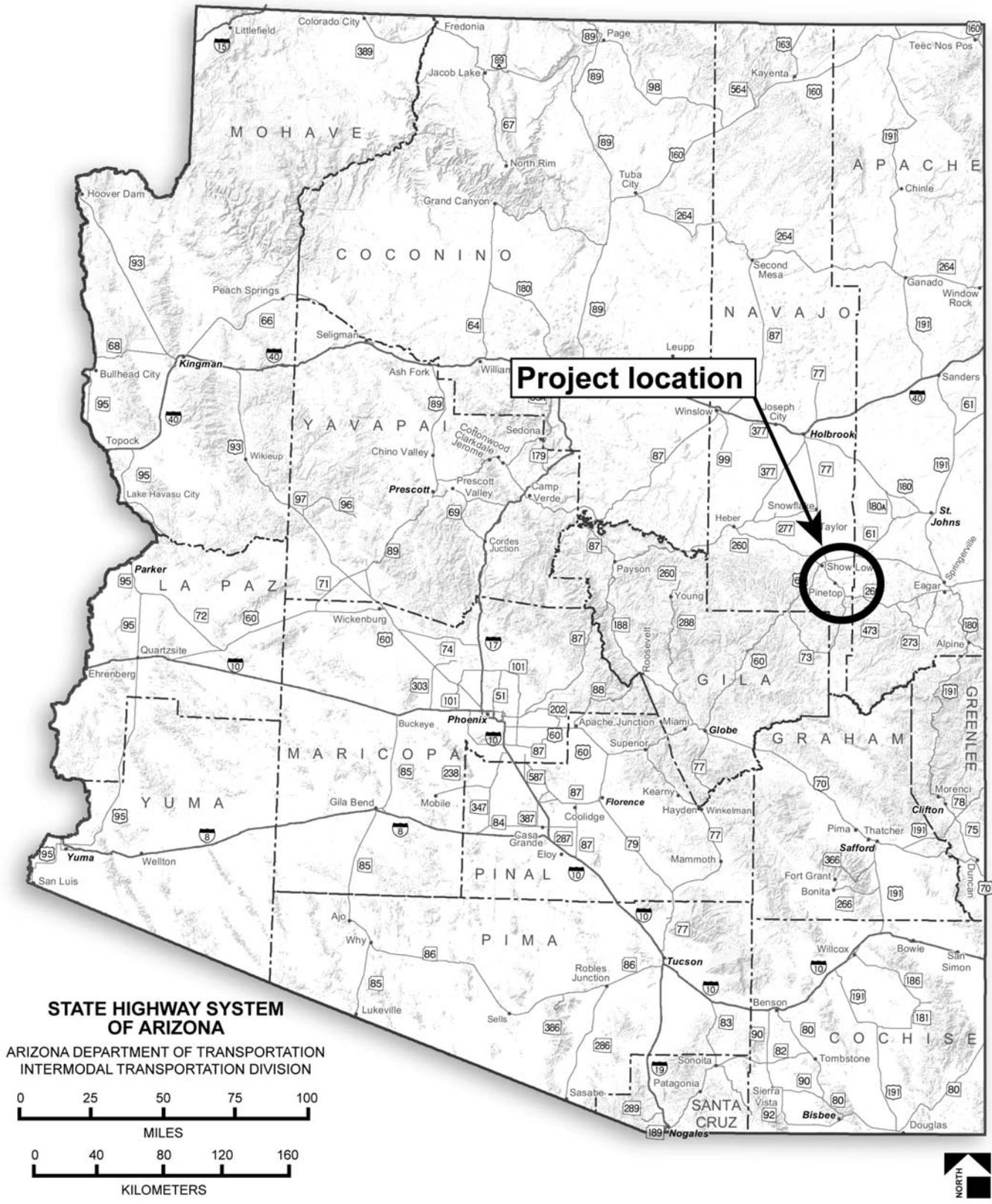
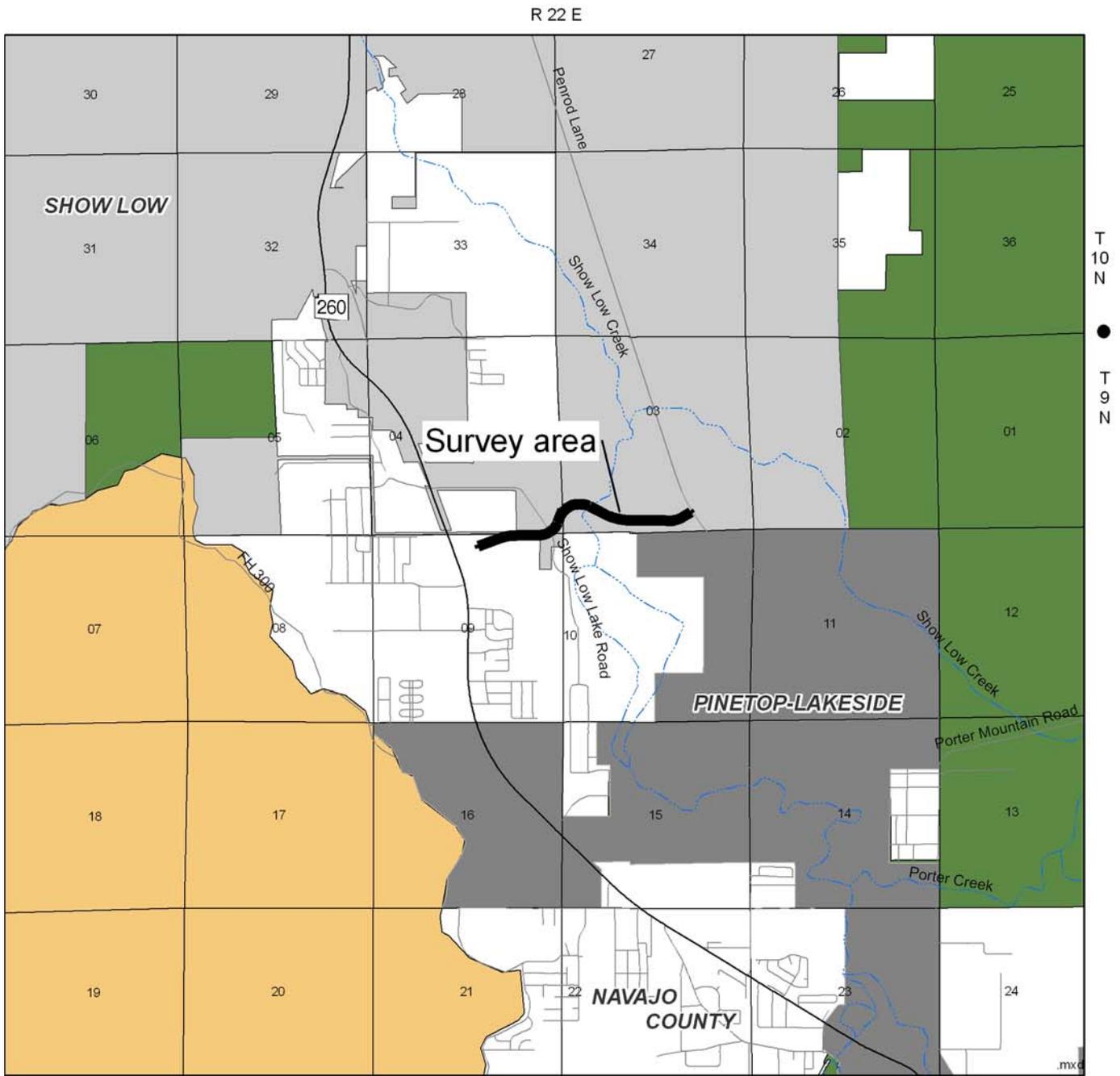


Figure 1. State Location Map

Section 404 Jurisdictional Delineation
 Scott Ranch Road



Source: Land Ownership GIS Coverage provided by Arizona State Land Department
 Source: Arizona Transportation Information System GIS Coverage (2007)

- Key
-  Boundary of area surveyed
 -  Apache-Sitgreaves National Forest
 -  Private Land
 -  White Mtn Apache Indian Community
 -  Pinetop-Lakeside
 -  Show Low

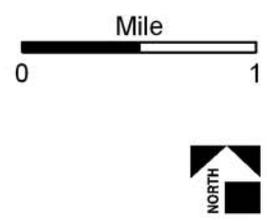
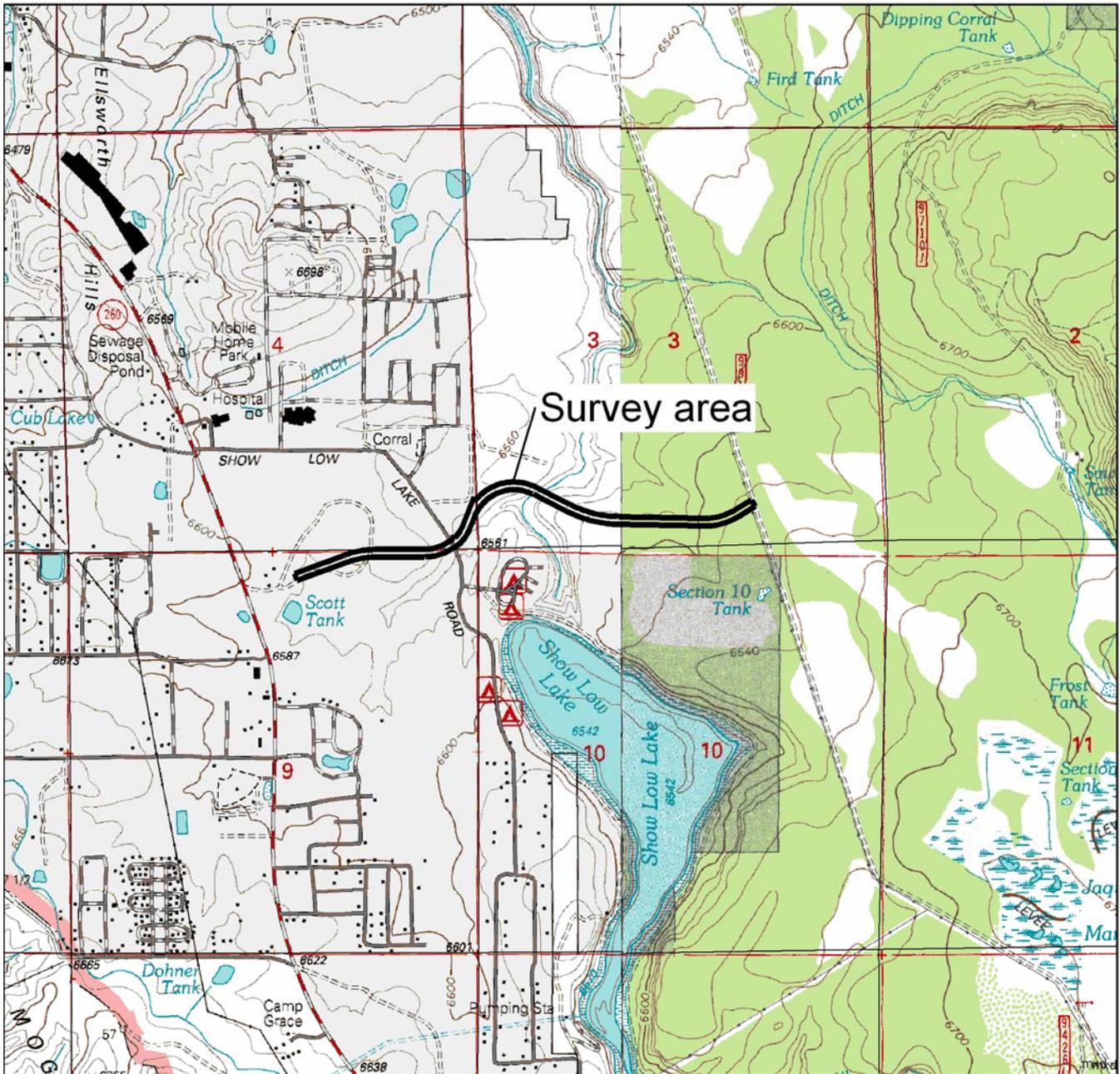


Figure 2. Project Vicinity Map
 Section 404 Jurisdictional Delineation
 Scott Ranch Road



Sources: USGS 7.5' Quadrangles Lakeside, AZ (1998) and Show Low South, AZ (1998)

Key

— Boundary of area surveyed



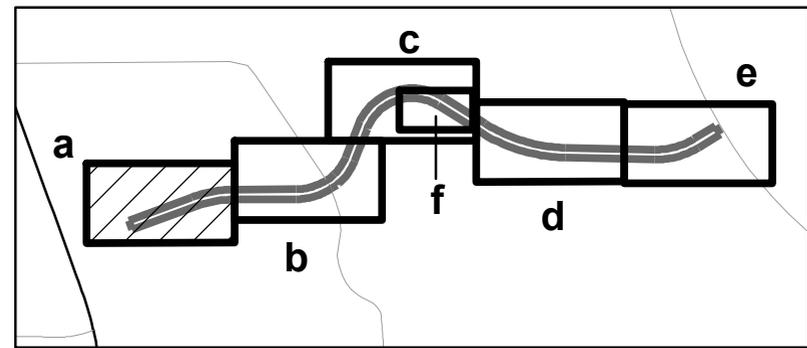
Figure 4. Topographic Map
 Section 404 Jurisdictional Delineation
 Scott Ranch Road

SECTION 404 JURISDICTIONAL DELINEATION
 US Army Corps of Engineers, Los Angeles District
 Application No. _____
 Boundary of area surveyed for jurisdictional waters of the United States
 Ordinary High Water Mark
 Waters of the United States
 Wetlands (If legend is blank no wetlands occur within survey area.)
 Site Visit (Y/N) Date: _____
 1:100 Scale 2007 Date of Photograph _____
 _____ Corps Project Manager



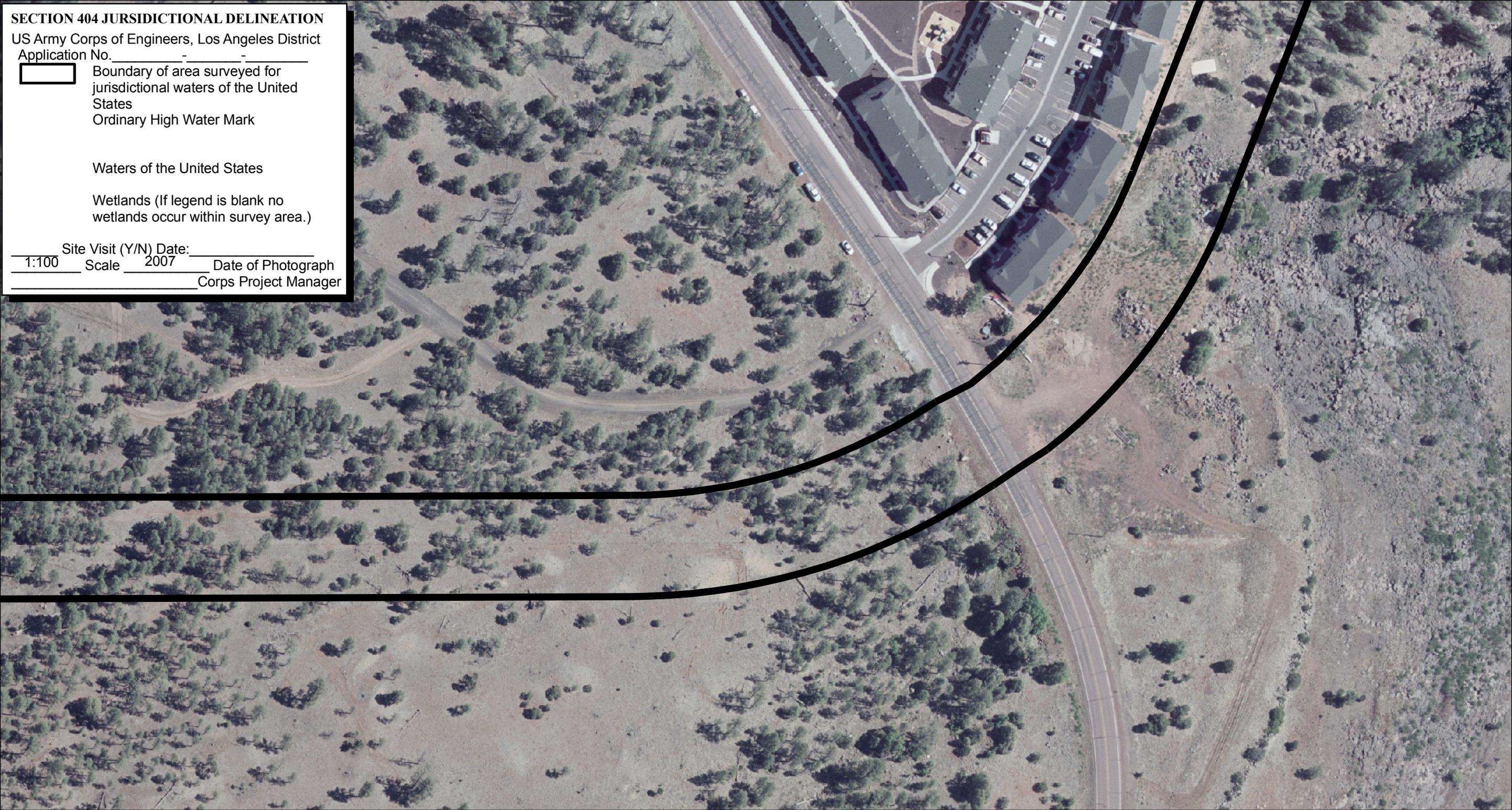
Aerial Date: 2007

Key
 Boundary of Area Surveyed



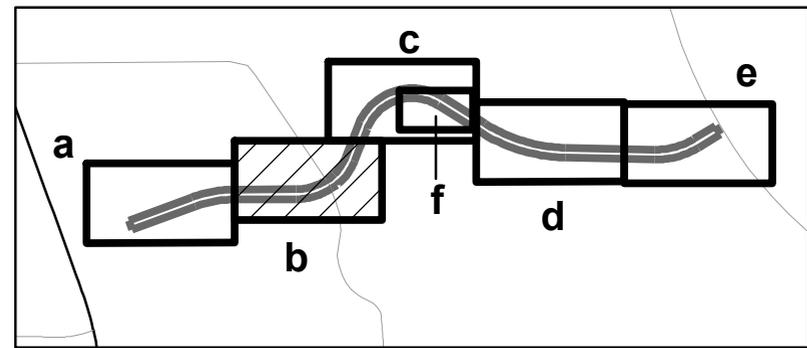
Section 404 Jurisdictional Delineation Scott Ranch Road		
 LOGAN SIMPSON DESIGN INC.	Feet 0 100	July 2009
	1" = 100' 	Figure 5a

SECTION 404 JURISDICTIONAL DELINEATION
 US Army Corps of Engineers, Los Angeles District
 Application No. _____
 Boundary of area surveyed for jurisdictional waters of the United States
 Ordinary High Water Mark
 Waters of the United States
 Wetlands (If legend is blank no wetlands occur within survey area.)
 Site Visit (Y/N) Date: _____
 1:100 Scale 2007 Date of Photograph _____
 _____ Corps Project Manager



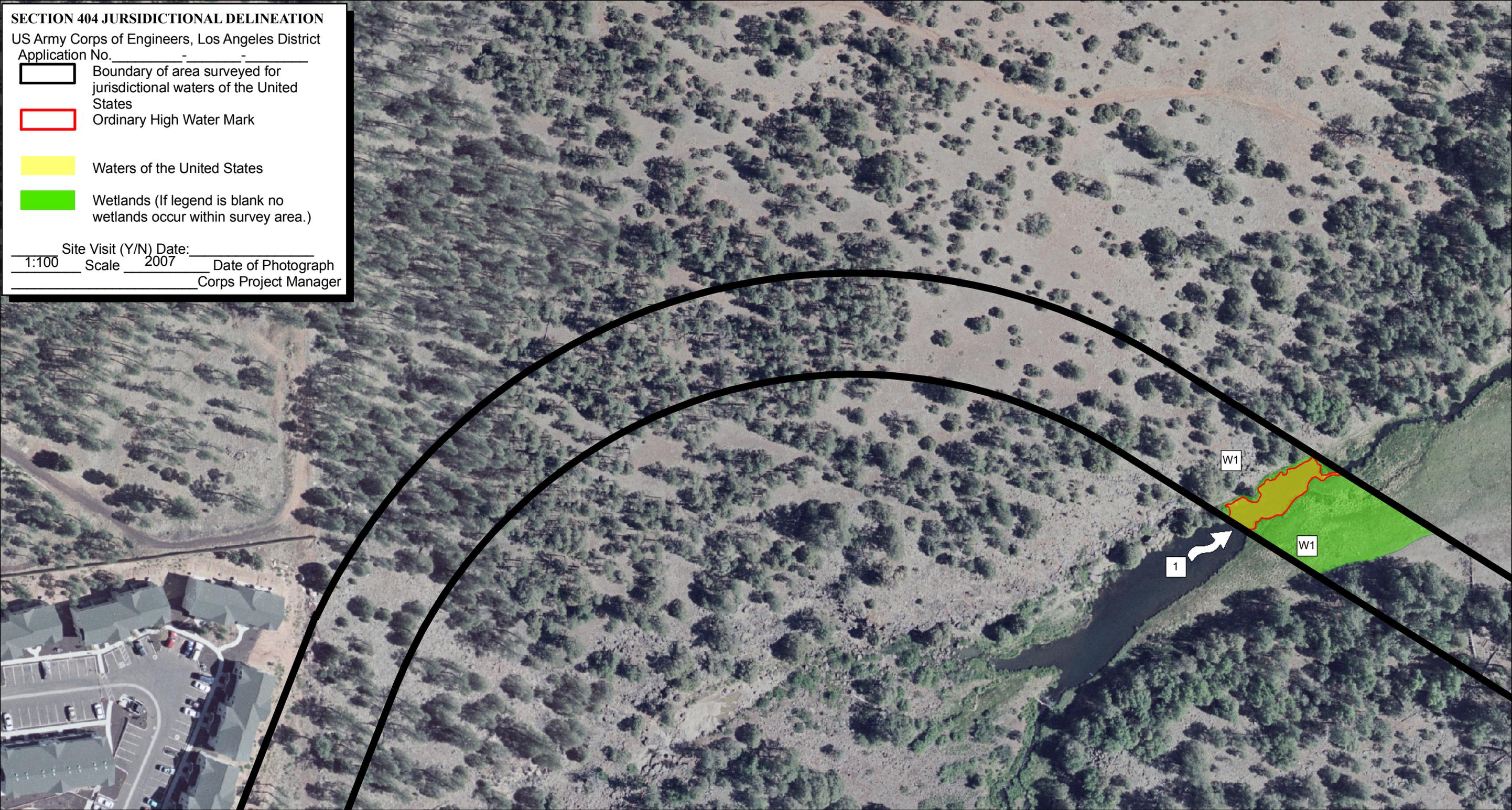
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Key
 Boundary of Area Surveyed



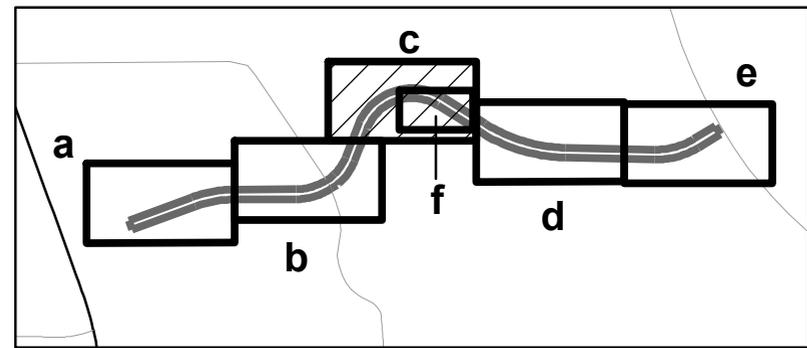
Section 404 Jurisdictional Delineation Scott Ranch Road		
 LOGAN SIMPSON DESIGN INC.	Feet 0 100	July 2009
	1" = 100' 	Figure 5b

SECTION 404 JURISDICTIONAL DELINEATION
 US Army Corps of Engineers, Los Angeles District
 Application No. _____
 Boundary of area surveyed for jurisdictional waters of the United States
 Ordinary High Water Mark
 Waters of the United States
 Wetlands (If legend is blank no wetlands occur within survey area.)
 Site Visit (Y/N) Date: _____
 1:100 Scale 2007 Date of Photograph _____
 Corps Project Manager _____

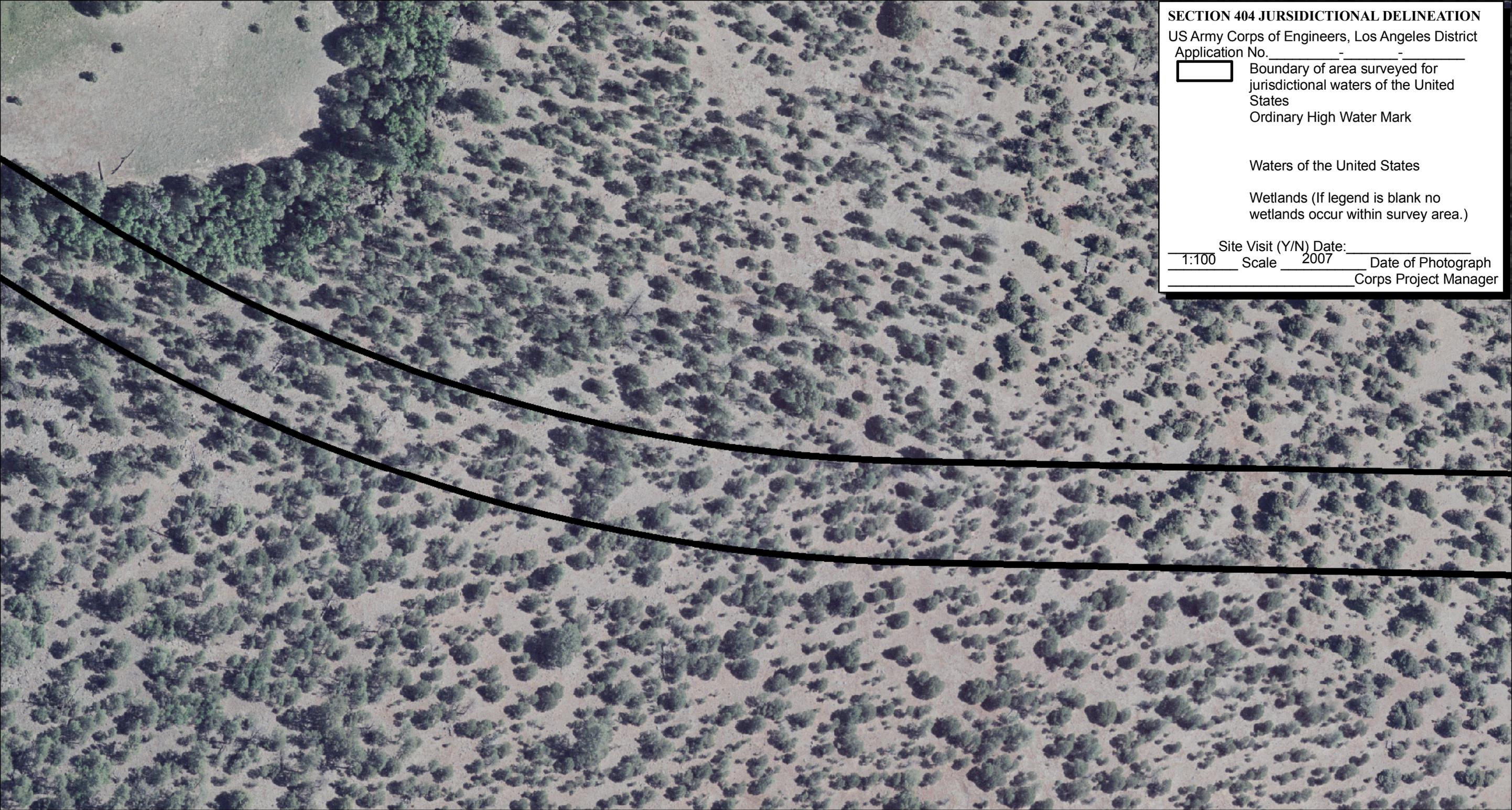


Aerial Date: 2007

Key
 Boundary of Area Surveyed
 Ordinary High Water Mark
 Waters of the United States
 Wetlands
 W# Wetland Number
 # Wash Number
 Flow Direction



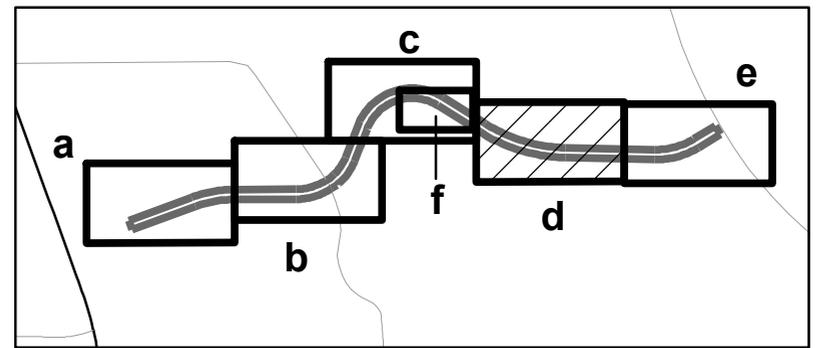
Section 404 Jurisdictional Delineation Scott Ranch Road		
 LOGAN SIMPSON DESIGN INC.	Feet 0 100	July 2009
	1" = 100' 	Figure 5c



SECTION 404 JURISDICTIONAL DELINEATION
 US Army Corps of Engineers, Los Angeles District
 Application No. _____
 Boundary of area surveyed for jurisdictional waters of the United States
 Ordinary High Water Mark
 Waters of the United States
 Wetlands (If legend is blank no wetlands occur within survey area.)
 Site Visit (Y/N) Date: _____
 1:100 Scale 2007 Date of Photograph _____
 Corps Project Manager _____

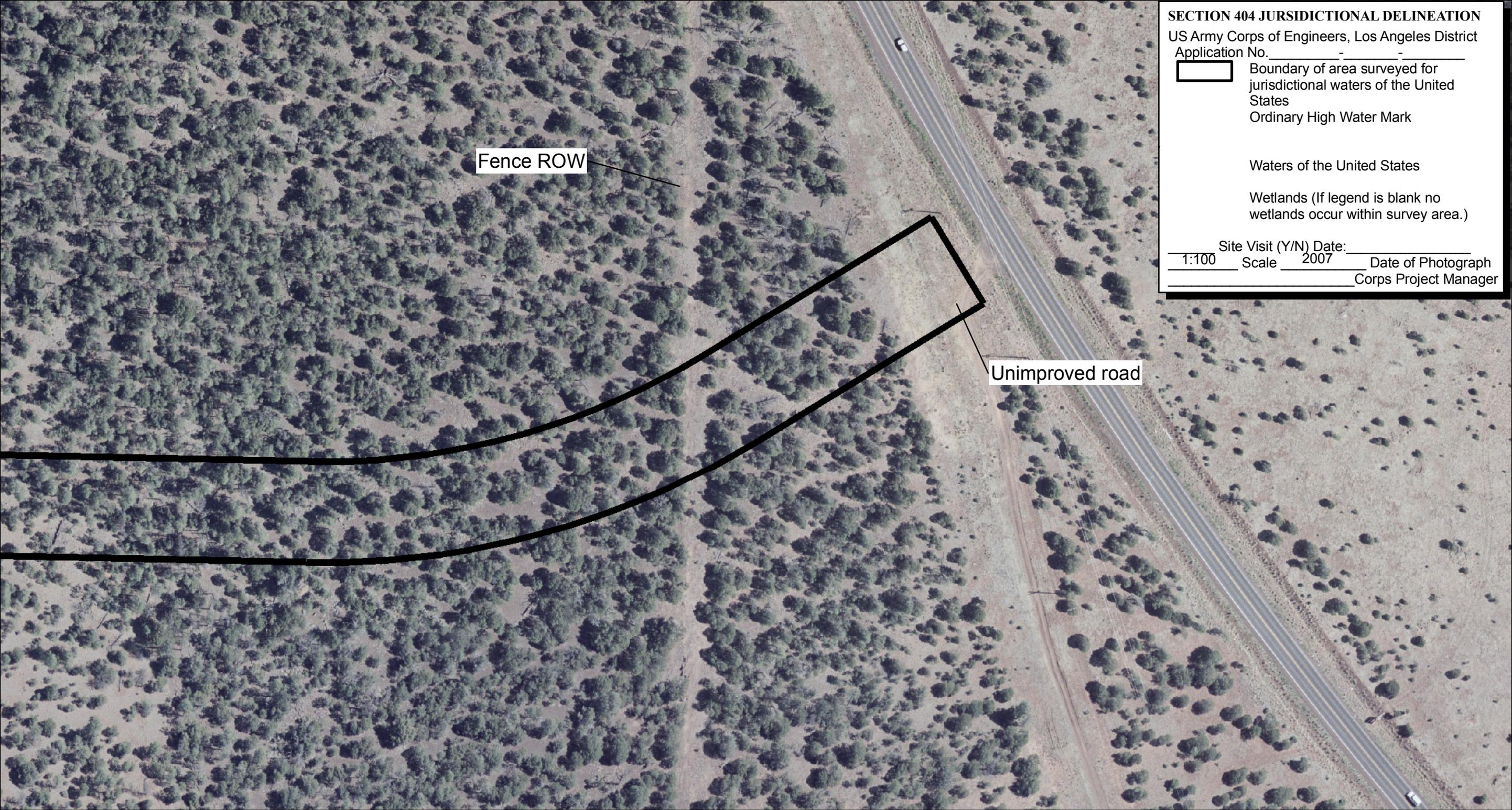
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Key
 Boundary of Area Surveyed



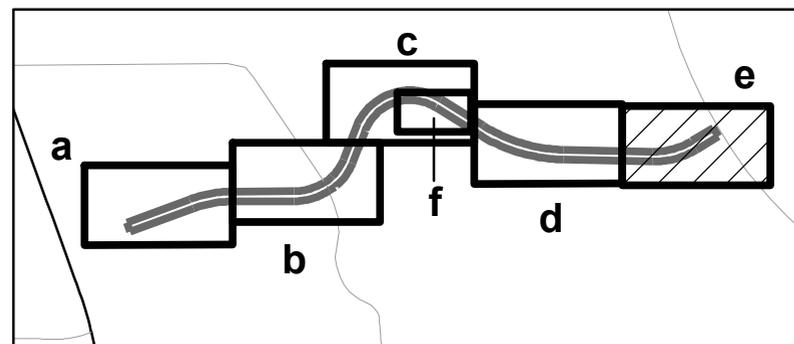
Section 404 Jurisdictional Delineation Scott Ranch Road		
 LOGAN SIMPSON DESIGN INC.	Feet  0 100	July 2009
	1" = 100' 	Figure 5d

SECTION 404 JURISDICTIONAL DELINEATION
 US Army Corps of Engineers, Los Angeles District
 Application No. _____
 Boundary of area surveyed for jurisdictional waters of the United States
 Ordinary High Water Mark
 Waters of the United States
 Wetlands (If legend is blank no wetlands occur within survey area.)
 Site Visit (Y/N) Date: _____
 1:100 Scale 2007 Date of Photograph _____
 Corps Project Manager _____

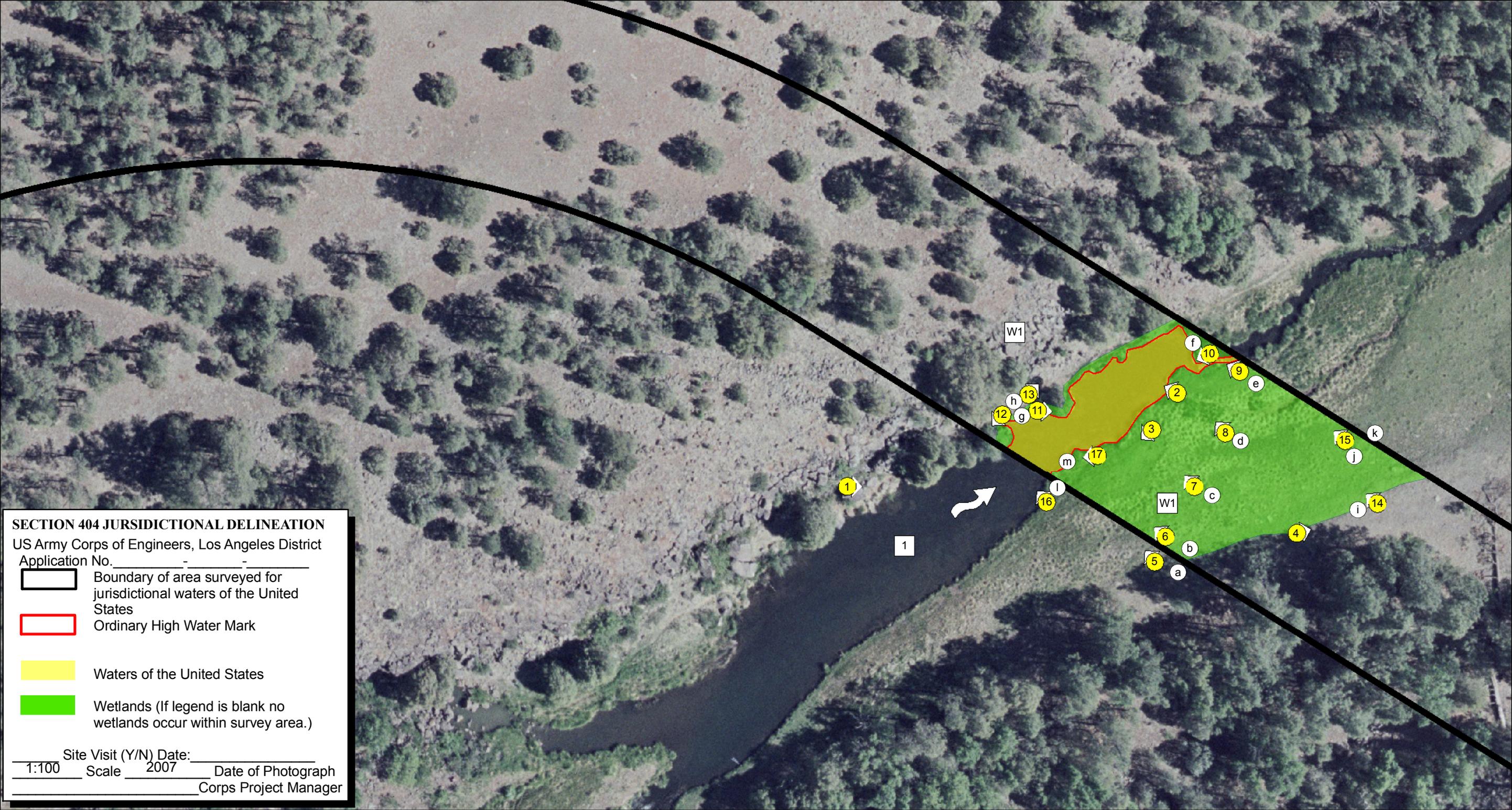


Aerial Date: 2007

Key
 Boundary of Area Surveyed



Section 404 Jurisdictional Delineation Scott Ranch Road		
 LOGAN SIMPSON DESIGN INC.	Feet 0 100	July 2009
	1" = 100' 	Figure 5e



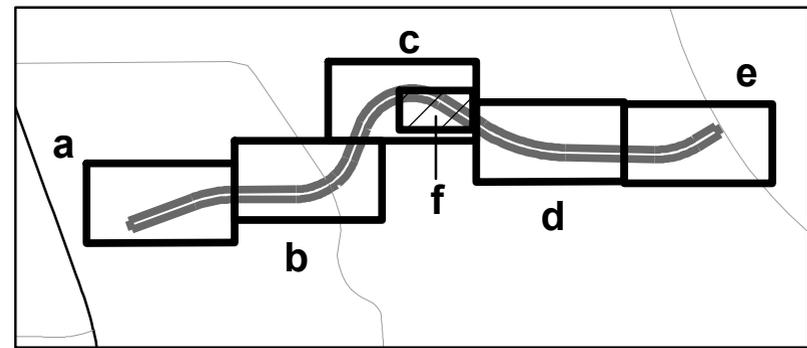
SECTION 404 JURISDICTIONAL DELINEATION
 US Army Corps of Engineers, Los Angeles District
 Application No. _____

 Boundary of area surveyed for jurisdictional waters of the United States
 Ordinary High Water Mark
 Waters of the United States
 Wetlands (If legend is blank no wetlands occur within survey area.)
 Site Visit (Y/N) Date: _____
 1:100 Scale 2007 Date of Photograph
 _____ Corps Project Manager

Aerial Date: 2007

Key

Photo Point Locations	Wetland Number
Boundary of Area Surveyed	Wash Number
Ordinary High Water Mark	Wetland Sample Point Locations
Waters of the United States	Flow Direction
Wetlands	



Section 404 Jurisdictional Delineation Scott Ranch Road		
 LOGAN SIMPSON DESIGN INC.	Feet 0 50	July 2009
	1" = 50' 	Figure 5f

APPENDIX B

Summary Tables

Summary Tables

Wash No.		Wash 1
Wash Name		Show Low Creek
Location		34.200480°N/ 110.003898°W
Jurisdictional Characteristics	Vegetation Difference Between Wash and Upland	Y
	Change in Soil Characteristics	Y
	Waterline Mark on Bank	Y
	Water Stains	Y
	Shelving or Cut Banks	Y
	Exposed Roots	Y
	Sediments Deposits	Y
	Presence of Litter / Debris	Y
Tributary Connection to the Colorado River		Y
Jurisdictional		Y
Drainage Area (miles)		73
Wash Width (feet)		10-35
Wash Depth (feet)		<2
Ground Photo Nos.		4-8
Comments		Relatively Permanent Water

Table 1. Physical Characteristics

Test Pit	Test Pit Meets Wetland Criteria for:			Wetland	Wetland Number	Comments
	Vegetation	Soil	Hydrology			
a	Y	N	N	N	NA ^a	Defines southeast boundary of Wetland 1 outside of project boundary
b	Y	Y	Y	Y	W1	Emergent wetland
c	Y	Y	Y	Y	W1	Emergent wetland
d	Y	Y	Y	Y	W1	Emergent wetland
e	Y	Y	Y	Y	W1	Emergent wetland
f	Y	Y	Y	Y	W1	Emergent fringe wetland with rocky substrate
g	Y	Y	Y	Y	W1	Emergent fringe wetland with rocky substrate
h	N	N	N	N	NA ^a	Defines northwest boundary of Wetland 1
i	N	N	N	N	NA ^a	Defines southeast boundary of Wetland 1
j	Y	Y	Y	Y	W1	Emergent wetland
k	Y	Y	Y	Y	W1	Emergent wetland outside project boundary
l	Y	Y	Y	Y	W1	Emergent wetland outside project boundary
m	Y	Y	Y	Y	W1	Emergent wetland

^aNot Applicable

Table 2. Wetland Data Summary

APPENDIX C

Stream Gauge Table

Stream Gauge Table



USGS Home
 Contact USGS
 Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category:
 Surface Water

Geographic Area:
 Arizona

News: [Recent changes](#)

USGS Surface-Water Monthly Statistics for Arizona

The statistics generated from this site are based on approved daily-mean data and may not match those published by the USGS in official publications. The user is responsible for assessment and use of statistics from this site. For more details on why the statistics may not match, [click here](#).

USGS 09392000 SHOW LOW CR BL JAQUES DAM, NR SHOW LOW, AZ

Available data for this site Time-series: Monthly statistics

Navajo County, Arizona Hydrologic Unit Code 15020005 Latitude 34°11'47", Longitude 110°00'13" NAD27 Drainage area 73 square miles Gage datum 6,530 feet above sea level NGVD29	Output formats <input type="button" value="HTML table of all data"/> <input type="button" value="Tab-separated data"/> <input type="button" value="Reselect output format"/>
--	--

00060, Discharge, cubic feet per second,												
YEAR	Monthly mean in cfs (Calculation Period: 1955-10-01 -> 2005-09-30)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1955										4.74	1.12	0.584
1956	0.468	0.521	0.581	2.28	5.02	7.04	4.59	3.44	3.50	0.774	0.583	0.500
1957	0.500	0.099	0.355	2.42	4.00	6.04	5.08	2.16	4.32	1.54	0.500	0.500
1958	0.500	0.463	0.035	1.25	6.47	7.04	7.44	5.17	4.32	2.07	1.88	0.800
1959	0.800	0.686	0.597	2.26	5.85	6.26	5.54	1.88	5.08	1.00	0.483	0.500
1960	8.63	2.17	65.2	3.57	6.01	6.79	8.10	7.93	6.18	3.05	0.640	1.29
1961	0.700	0.693	0.000	0.067	6.17	6.63	6.43	2.25	2.99	2.15	0.793	0.700
1962	0.735	32.1	43.8	22.9	6.01	7.26	6.82	6.93	4.49	0.913	0.233	0.229
1963	0.203	0.271	1.12	3.20	5.30	6.66	7.00	2.85	1.67	3.62	0.713	0.716
1964	0.439	0.248	0.145	3.14	3.75	5.32	4.74	2.46	2.60	2.71	0.783	0.516
1965	0.458	0.339	0.768	50.6	4.74	5.60	5.31	4.38	4.07	2.39	0.673	24.7

1966	24.2	11.5	75.7	3.95	4.40	6.32	6.44	6.05	4.41	2.67	0.210	0.200
1967	0.781	0.146	0.377	2.57	4.57	5.05	4.57	2.71	4.14	4.90	2.25	0.658
1968	1.05	1.70	70.7	14.4	6.38	7.53	7.88	4.52	6.38	1.66	0.914	0.244
1969	0.466	0.815	0.861	5.15	4.25	7.43	5.06	4.26	6.07	5.45	1.36	0.660
1970	0.515	0.336	0.440	2.54	4.84	6.51	6.40	2.61	2.92	0.534	0.827	0.864
1971	0.501	0.493	0.976	3.50	4.49	5.47	5.97	1.47	4.37	0.727	0.944	43.4
1972	1.02	1.03	1.39	3.23	4.47	3.19	5.20	4.86	3.07	0.915	0.125	0.116
1973	0.115	0.095	74.9	196.3	72.0	6.04	5.57	5.05	7.01	8.49	2.06	0.130
1974	0.188	0.254	0.265	3.43	5.32	5.88	5.15	4.50	4.53	1.00	0.037	0.481
1975	0.465	0.522	11.7	44.9	5.31	6.10	5.37	6.02	2.39	4.57	1.27	0.255
1976	0.291	0.335	0.416	3.48	5.13	6.09	4.89	6.07	3.77	0.821	0.584	0.686
1977	0.510	0.192	0.190	1.77	6.84	6.89	4.05	3.64	4.03	0.000	0.000	0.000
1978	0.000	0.000	128.4	0.000	1.58	5.62	6.07	4.97	4.98	0.818	0.030	166.6
1979	42.9	65.7	120.0	51.5	16.5	6.47	5.99	3.71	5.48	2.24	1.32	1.40
1980	1.45	180.8	33.9	11.2	1.98	6.88	6.21	4.70	3.32	6.70	3.00	3.00
1981	3.02	3.18	3.27	3.50	5.79	6.57	6.38	6.29	6.01	1.85	0.663	0.600
1982	0.600	0.602	0.706	2.26	5.82	6.01	6.11	2.21	4.45	4.15	0.866	0.401
1983	0.865	1.03	92.6	31.5	5.91	6.57	6.97	6.94	7.10	1.66	1.70	1.82
1984	6.92	1.81	2.87	4.48	5.92	6.65	6.41	3.58	4.25	2.05	2.10	235.3
1985	43.0	87.9	126.2	32.8	16.5	8.75	6.65	5.26	4.10	1.10	1.10	1.12
1986	1.10	1.24	3.29	5.98	6.67	6.58	6.48	6.82	4.82	2.34	2.34	2.41
1987	2.75	3.05	83.9	18.9	6.81	7.04	7.85	4.28	6.46	4.74	0.690	0.690
1988	0.736	23.2	8.47	3.35	6.16	6.87	5.74	2.51	8.62	4.13	3.82	4.26
1989	4.28	4.88	10.7	4.38	5.13	6.15	6.14	4.32	5.21	1.18	1.70	0.500
1990	0.564	1.19	0.977	2.64	3.15	3.90	3.28	3.04	1.59	2.43	0.000	0.484
1991	0.911	2.82	60.0	30.3	5.84	5.32	5.28	4.99	3.81	1.96	1.50	1.60
1992	1.76	24.7	50.6	12.9	31.6	11.5	4.90	13.7	4.90	5.13	2.42	72.3
1993	197.1	168.3	47.1	21.7	8.43	4.97	5.82	5.13	5.22	1.81	3.54	4.73
1994	7.12	13.9	26.3	4.87	4.51	5.39	6.30	5.97	3.78	2.56	0.066	0.421
1995	17.6	104.6	77.9	7.81	4.43	5.26	5.45	4.22	5.27	3.42	0.927	0.294
1996	0.140	0.243	0.566	2.73	3.89	4.04	3.85	4.38	0.755	3.25	0.278	0.277
1997	0.107	0.030	2.56	4.66	3.74	5.12	5.12	2.08	0.207	0.939	0.552	0.487
1998	0.198	0.275	1.19	27.0	4.88	5.28	5.51	5.42	4.33	3.64	0.440	0.440
1999	0.385	0.430	1.11	1.84	4.70	4.70	2.47	2.69	1.73	4.85	1.34	0.643
2000	0.594	0.882	0.807	3.27	4.68	4.75	4.61	2.50	2.95	1.74	0.301	0.351
2001	0.439	0.401	15.3	16.0	4.41	4.92	4.95	1.94	4.73	3.19	0.883	0.813
2002	0.428	0.802	0.583	2.14	4.09	3.81	4.06	3.24	2.79	2.36	0.477	0.439
2003	0.239	0.225	0.235	4.17	5.03	6.75	11.0	6.10	3.92	5.44	1.10	0.220
2004	0.232	0.164	1.68	2.81	3.91	5.13	5.27	5.17	4.11	3.02	0.158	0.045

2005	0.108	122.0	22.3	6.85	4.76	5.53	5.75	4.65	5.25			
Mean of monthly Discharge	7.6	17	25	14	7.4	6.1	5.8	4.4	4.2	2.7	1.0	12
** No Incomplete data have been used for statistical calculation												

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Title: Surface Water data for Arizona: USGS Surface-Water Monthly Statistics

URL: <http://waterdata.usgs.gov/az/nwis/monthly?>



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APPENDIX D

Ground Photographs

Photo No. 1 (Project Area)



Overview of proposed bridge location, facing east
(Photo: October 2008)

Photo No. 2 (Wash 1/Wetland 1)



Overview of Wetland 1 on the northwest bank of Wash 1, facing northwest

Ground Photographs

Photo No. 3 (Wash 1/Wetland 1)



Overview of Wetland 1 on the southeast bank of Wash 1, facing southwest

Photo No. 4 (Wetland 1)



Overview of Wetland 1, facing northeast

Ground Photographs

Photo No. 5 (Sample Point a)



Overview from Sample Point a, facing northwest

Photo No. 6 (Sample Point b)



Overview from Sample Point b, facing northwest

Ground Photographs

Photo No. 7 (Sample Point c)



Overview from Sample Point c, facing northwest

Photo No. 8 (Sample Point d)



Overview from Sample Point d, facing northwest

Ground Photographs

Photo No. 9 (Sample Point e)



Overview from Sample Point e, facing northwest

Photo No. 10 (Sample Point f)



Overview from Sample Point f, facing southwest

Ground Photographs

Photo No. 11 (Sample Point g)



Downstream view from Sample Point g, facing east

Photo No. 12 (Sample Point g)



Upstream view from Sample Point g, facing southwest

Ground Photographs

Photo No. 13 (Sample Point h)



Downstream view from Sample Point h, facing northeast

Photo No. 14 (Sample Point i)



Overview from Sample Point i, facing northwest

Ground Photographs

Photo No. 15 (Sample Points j and k)



Overview near Sample Points j and k, facing northwest

Photo No. 16 (Sample Point I)



Overview from Sample Point I, facing northwest

Ground Photographs

Photo No. 17 (Sample Point m)



Overview from Sample Point m, facing southwest

Ground Photographs

APPENDIX E

Test Pit Photographs

Sample Point a



Soils from Test Pit a

Sample Point b



Soils from Test Pit b

Test Pit Photographs

Sample Point c



Soils from Test Pit c

Sample Point d



Soils from Test Pit d

Test Pit Photographs

Sample Point e



Soils from Test Pit e

Sample Point f



Soils from Test Pit f

Test Pit Photographs

Sample Point i



Soils from Test Pit i

Sample Point j



Soils from Test Pit j

Test Pit Photographs

Sample Point k



Soils from Test Pit k

Sample Point l



Soils from Test Pit l

Test Pit Photographs

Sample Point m



Soils from Test Pit m

Test Pit Photographs

APPENDIX F

Wetland Determination Data Forms

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

Project/Site: Scott Ranch Road City/County: Show Low / Navajo Sampling Date: 6/4/09
 Applicant/Owner: City of Show Low State: AZ Sampling Point: a
 Investigator(s): Jeremy Casteel, Ada Davis Section, Township, Range: Sec 3, T9N, R22E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 2
 Subregion (LRR): MLRA 39 Lat: 34.200450N Long: 110.003810W Datum: NAD83
 Soil Map Unit Name: Overgaard-Elledge-Telephone Association NWI classification: Not applicable

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>6 ft</u> _____)				
1. <u>Deschampsia caespitosa</u>	60	Yes	FACW	
2. <u>Melilotus officinalis</u>	5	No	FACU	
3. <u>Quercus gambelii</u>	1	No	UPL	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species 0 x 1 = 0
 FACW species 60 x 2 = 120
 FAC species 0 x 3 = 0
 FACU species 5 x 4 = 20
 UPL species 1 x 5 = 5
 Column Totals: 66 (A) 145 (B)
 Prevalence Index = B/A = 2.20

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

Remarks:

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

Project/Site: Scott Ranch Road City/County: Show Low / Navajo Sampling Date: 6/4/09
 Applicant/Owner: City of Show Low State: AZ Sampling Point: b
 Investigator(s): Jeremy Casteel, Ada Davis Section, Township, Range: Sec 3, T9N, R22E
 Landform (hillslope, terrace, etc.): slight slope Local relief (concave, convex, none): concave Slope (%): 1-2
 Subregion (LRR): MLRA 39 Lat: 34.200450N Long: 110.003810W Datum: NAD83
 Soil Map Unit Name: Overgaard-Elledge-Telephone Association NWI classification: Palustrine Emergent Wetland

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>6 ft</u> _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Deschampsia caespitosa</i></u>	70	Yes	FACW	
2. <u><i>Melilotus officinalis</i></u>	5	No	FACU	
3. <u><i>Carex scoparia</i></u>	5	No	FACW	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
80% = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species 0 x 1 = 0
 FACW species 75 x 2 = 150
 FAC species 0 x 3 = 0
 FACU species 5 x 4 = 20
 UPL species 0 x 5 = 0
 Column Totals: 80 (A) 170 (B)
 Prevalence Index = B/A = 2.125

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point: b

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 10	7.5YR, 2.5/1	100					Silty Clay	
10 - 20	10YR, 3/3	95	7.5YR, 4/6	5	C	M	Silty Clay	

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | <input checked="" type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | |

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydrophytic vegetation and wetland hydrology are present at Sample Point b. The landscape setting has the following characteristics: concave surface, active floodplain, nearly level area, adjacent to cliff face, adjacent to Show Low Creek, and places with groundwater discharges. According to stream gauge data from USGS between 1956 and 2005, Show Low Creek experiences consistent flow capable of ponding or flooding its historic channel for 14 or more consecutive days during the growing season in most years. Based on the presence of dominant hydrophytic vegetation, primary wetland hydrology indicators, an adequate soil profile and landscape setting, and hydrological observations, the soils at Sample Point b are classified as hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

- | | | |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | | |

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 6
 Saturation Present? Yes No Depth (inches): 2
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

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

Remarks:

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

Project/Site: Scott Ranch Road City/County: Show Low / Navajo Sampling Date: 6/4/09
 Applicant/Owner: City of Show Low State: AZ Sampling Point: c
 Investigator(s): Jeremy Casteel, Ada Davis Section, Township, Range: Sec 3, T9N, R22E
 Landform (hillslope, terrace, etc.): Floodplain terrace Local relief (concave, convex, none): concave Slope (%): 0-1
 Subregion (LRR): MLRA 39 Lat: 34.200450N Long: 110.003810W Datum: NAD83
 Soil Map Unit Name: Overgaard-Elledge-Telephone Association NWI classification: Palustrine Emergent Wetland

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>6 ft</u> _____)				
1. <u>Deschampsia caespitosa</u>	50	Yes	FACW	
2. <u>Carex scoparia</u>	20	Yes	FACW	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species 0 x 1 = 0
 FACW species 70 x 2 = 140
 FAC species 0 x 3 = 0
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column Totals: 70 (A) 140 (B)
 Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point: c

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 – 20	7.5YR, 2.5/1	95	7.5YR, 4/4	5	C	M	Silty Clay	

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

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

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydrophytic vegetation and wetland hydrology are present at Sample Point c. The landscape setting has the following characteristics: concave surface, active floodplain, nearly level area, adjacent to cliff face, adjacent to Show Low Creek, and places with groundwater discharges. According to stream gauge data from USGS between 1956 and 2005, Show Low Creek experiences consistent flow capable of ponding or flooding its historic channel for 14 or more consecutive days during the growing season in most years. Based on the presence of dominant hydrophytic vegetation, primary wetland hydrology indicators, an adequate soil profile and landscape setting, and hydrological observations, the soils at Sample Point c are classified as hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes No Depth (inches): 1
Water Table Present? Yes No Depth (inches): 8
Saturation Present? Yes No Depth (inches): 2
(includes capillary fringe)

Wetland Hydrology Present? Yes No

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

Remarks:

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

Project/Site: Scott Ranch Road City/County: Show Low / Navajo Sampling Date: 6/4/09
 Applicant/Owner: City of Show Low State: AZ Sampling Point: d
 Investigator(s): Jeremy Casteel, Ada Davis Section, Township, Range: Sec 3, T9N, R22E
 Landform (hillslope, terrace, etc.): slight slope Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): MLRA 39 Lat: 34.200450N Long: 110.003810W Datum: NAD83
 Soil Map Unit Name: Overgaard-Elledge-Telephone Association NWI classification: Palustrine Emergent Wetland

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>6 ft</u> _____)				
1. <u>Deschampsia caespitosa</u>	80	Yes	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
80% = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species 0 x 1 = 0
 FACW species 80 x 2 = 160
 FAC species 0 x 3 = 0
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column Totals: 80 (A) 160 (B)
 Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks:

SOIL

Sampling Point: d

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 – 20	7.5YR, 2.5/1	50					Silty Clay	
0 - 20	10YR, 3/3	45	7.5YR, 4/6	5	C	M	Silty Clay	

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

Project/Site: Scott Ranch Road City/County: Show Low / Navajo Sampling Date: 6/4/09
 Applicant/Owner: City of Show Low State: AZ Sampling Point: e
 Investigator(s): Jeremy Casteel, Ada Davis Section, Township, Range: Sec 3, T9N, R22E
 Landform (hillslope, terrace, etc.): slight slope Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): MLRA 39 Lat: 34.200450N Long: 110.003810W Datum: NAD83
 Soil Map Unit Name: Overgaard-Elledge-Telephone Association NWI classification: Palustrine Emergent Wetland

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>6 ft</u> _____)				
1. <u>Deschampsia caespitosa</u>	40	Yes	FACW	
2. <u>Carex vulpinoidea</u>	20	Yes	OBL	
3. <u>Taraxacum officinale</u>	5	No	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
65% = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species 20 x 1 = 20
 FACW species 40 x 2 = 80
 FAC species 0 x 3 = 0
 FACU species 5 x 4 = 20
 UPL species 0 x 5 = 0
 Column Totals: 65 (A) 120 (B)
 Prevalence Index = B/A = 1.846

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks:

SOIL

Sampling Point: e

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 – 20	7.5YR, 2.5/1	20					Silty Clay	
0 – 20	10YR, 3/3	75	7.5YR, 4/6	5	C	M	Silty Clay	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks: Hydrophytic vegetation and wetland hydrology present at Sample Point e. The landscape setting has the following characteristics: concave surface, active floodplain, nearly level area, adjacent to cliff face, adjacent to Show Low Creek, and places with groundwater discharges. According to stream gauge data from USGS between 1956 and 2005, Show Low Creek experiences consistent flow capable of ponding or flooding its historic channel for 14 or more consecutive days during the growing season in most years. Based on the presence of dominant hydrophytic vegetation, primary wetland hydrology indicators, an adequate soil profile and landscape setting, and hydrological observations, the soils at Sample Point e are classified as hydric.

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>15</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>12</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: See Appendix C.

Remarks:

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

Project/Site: Scott Ranch Road City/County: Show Low / Navajo Sampling Date: 6/4/09
 Applicant/Owner: City of Show Low State: AZ Sampling Point: f
 Investigator(s): Jeremy Casteel, Ada Davis Section, Township, Range: Sec 3, T9N, R22E
 Landform (hillslope, terrace, etc.): slight slope Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): MLRA 39 Lat: 34.200450N Long: 110.003810W Datum: NAD83
 Soil Map Unit Name: Overgaard-Elledge-Telephone Association NWI classification: Palustrine Emergent Wetland

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>10</u>	= Total Cover		
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	= Total Cover			
<u>Herb Stratum</u> (Plot size: <u>6 ft</u> _____)				
1. <u>Carex vulpinoidea</u>	<u>70</u>	<u>Yes</u>	<u>OBL</u>	
2. <u>Deschampsia caespitosa</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
3. <u>Melilotus officinalis</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
4. <u>Equisetum hyemale</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
5. <u>Capsella sp.</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>95%</u> = Total Cover			
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	= Total Cover			
% Bare Ground in Herb Stratum _____				
Remarks:				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: 70 Multiply by: _____
 OBL species 70 x 1 = 70
 FACW species 15 x 2 = 30
 FAC species 0 x 3 = 0
 FACU species 10 x 4 = 40
 UPL species 0 x 5 = 0
 Column Totals: 95 (A) 140 (B)
 Prevalence Index = B/A = 1.474

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point: f

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 – 20	7.5YR, 3/2	100					Sandy Clay	

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

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

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Soil contains high quantity of root material. Hydrophytic vegetation and wetland hydrology present at Sample Point f. The landscape setting has the following characteristics: concave surface, active floodplain, nearly level area, adjacent to cliff face, adjacent to Show Low Creek, and places with groundwater discharges. According to stream gauge data from USGS between 1956 and 2005, Show Low Creek experiences consistent flow capable of ponding or flooding its historic channel for 14 or more consecutive days during the growing season in most years. Based on the presence of dominant hydrophytic vegetation, primary wetland hydrology indicators, an adequate soil profile and landscape setting, and hydrological observations, the soils at Sample Point f are classified as hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 12
 Saturation Present? Yes No Depth (inches): 8
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

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

Remarks:

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

Project/Site: Scott Ranch Road City/County: Show Low / Navajo Sampling Date: 6/4/09
 Applicant/Owner: City of Show Low State: AZ Sampling Point: g
 Investigator(s): Jeremy Casteel, Ada Davis Section, Township, Range: Sec 3, T9N, R22E
 Landform (hillslope, terrace, etc.): slight slope Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): MLRA 39 Lat: 34.200450N Long: 110.003810W Datum: NAD83
 Soil Map Unit Name: Overgaard-Elledge-Telephone Association NWI classification: Palustrine Emergent Wetland

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Notes
Tree Stratum (Plot size: <u>30 ft</u>)				
1. <u><i>Alnus tenuifolia</i></u>	10	No	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.67</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>65</u> x 2 = <u>130</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>95</u> (A) <u>250</u> (B) Prevalence Index = B/A = <u>2.632</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>6 ft</u>)				
1. <u><i>Equisetum hyemale</i></u>	40	Yes	FACW	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u><i>Melilotus officinalis</i></u>	30	Yes	FACU	
3. <u><i>Deschampsia caespitosa</i></u>	25	Yes	FACW	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

SOIL

Sampling Point: g

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

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks: Adequate test pits were prohibited at Sample Point g due to problematic soil conditions (rocky substrate) encountered on the northwest bank of Show Low Creek. Hydrophytic vegetation and wetland hydrology present at Sample Point g. The landscape setting has the following characteristics: active floodplain, nearly level area, adjacent to cliff face, adjacent to Show Low Creek, and places with groundwater discharges. According to stream gauge data from USGS between 1956 and 2005, Show Low Creek experiences consistent flow capable of ponding or flooding its historic channel for 14 or more consecutive days during the growing season in most years. Based on the presence of dominant hydrophytic vegetation, primary wetland hydrology indicators, an adequate soil profile and landscape setting, and hydrological observations, the soils at Sample Point g are classified as hydric.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input checked="" type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): <u>unknown</u> Saturation Present? Yes _____ No _____ Depth (inches): <u>unknown</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: See Appendix C.

Remarks: Adequate test pits were prohibited at Sample Point g due to problematic soil conditions (rocky substrate) encountered on the northwest bank of Show Low Creek. Wetland hydrology was assumed to be present due to the presence of drift deposits, water marks, water-stained leaves and hydrophytic vegetation.

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

Project/Site: Scott Ranch Road City/County: Show Low / Navajo Sampling Date: 6/4/09
 Applicant/Owner: City of Show Low State: AZ Sampling Point: h
 Investigator(s): Jeremy Casteel, Ada Davis Section, Township, Range: Sec 3, T9N, R22E
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): 5
 Subregion (LRR): MLRA 39 Lat: 34.200450N Long: 110.003810W Datum: NAD83
 Soil Map Unit Name: Overgaard-Elledge-Telephone Association NWI classification: not applicable

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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Quercus gambelii</u>	5	No	UPL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.33</u> (A/B)
2. <u>Juniperus sp.</u>	50	Yes	UPL	
3. _____				
4. _____				
55 = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30 ft</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>60</u> x 5 = <u>300</u> Column Totals: <u>65</u> (A) <u>315</u> (B) Prevalence Index = B/A = <u>4.846</u>
1. <u>Ribes pinetorum</u>	5	Yes	UPL	
2. <u>Vitis arizonica</u>	5	Yes	FAC	
3. _____				
4. _____				
10 = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>6 ft</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

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

Project/Site: Scott Ranch Road City/County: Show Low / Navajo Sampling Date: 6/4/09
 Applicant/Owner: City of Show Low State: AZ Sampling Point: i
 Investigator(s): Jeremy Casteel, Ada Davis Section, Township, Range: Sec 3, T9N, R22E
 Landform (hillslope, terrace, etc.): slight slope Local relief (concave, convex, none): none Slope (%): 1-2
 Subregion (LRR): MLRA 39 Lat: 34.200450N Long: 110.003810W Datum: NAD83
 Soil Map Unit Name: Overgaard-Elledge-Telephone Association NWI classification: not applicable

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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>6 ft</u> _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Melilotus officinalis</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Machaeranthera canescens</u>	<u>10</u>	<u>Yes</u>	<u>UPL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>25</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
<u>% Bare Ground in Herb Stratum</u> _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species 0 x 1 = 0
 FACW species 0 x 2 = 0
 FAC species 0 x 3 = 0
 FACU species 15 x 4 = 60
 UPL species 10 x 5 = 50
 Column Totals: 25 (A) 110 (B)
 Prevalence Index = B/A = 4.400

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:

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

Project/Site: Scott Ranch Road City/County: Show Low / Navajo Sampling Date: 6/4/09

Applicant/Owner: City of Show Low State: AZ Sampling Point: j

Investigator(s): Jeremy Casteel, Ada Davis Section, Township, Range: Sec 3, T9N, R22E

Landform (hillslope, terrace, etc.): Floodplain terrace Local relief (concave, convex, none): concave Slope (%): 0-1

Subregion (LRR): MLRA 39 Lat: 34.200450N Long: 110.003810W Datum: NAD83

Soil Map Unit Name: Overgaard-Elledge-Telephone Association NWI classification: Palustrine Emergent Wetland

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>35</u> x 2 = <u>70</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>35</u> (A) <u>70</u> (B) Prevalence Index = B/A = <u>2.000</u>
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>6 ft</u>)				
1. <u>Deschampsia caespitosa</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Carex scoparia</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>35%</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks:				

SOIL

Sampling Point: j

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 – 20	7.5YR, 2.5/1	80					Silty Clay	
0 - 20	10YR, 3/3	15	7.5YR, 4/6	5	C	M	Silty Clay	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input checked="" type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks: Hydrophytic vegetation and wetland hydrology present at Sample Point j. The landscape setting has the following characteristics: active floodplain, nearly level area, adjacent to cliff face, adjacent to Show Low Creek, and places with groundwater discharges. According to stream gauge data from USGS between 1956 and 2005, Show Low Creek experiences consistent flow capable of ponding or flooding its historic channel for 14 or more consecutive days during the growing season in most years. Based on the presence of dominant hydrophytic vegetation, primary wetland hydrology indicators, an adequate soil profile and landscape setting, and hydrological observations, the soils at Sample Point j are classified as hydric.

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u> 6 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: See Appendix C.

Remarks:

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

Project/Site: Scott Ranch Road City/County: Show Low / Navajo Sampling Date: 6/4/09
 Applicant/Owner: City of Show Low State: AZ Sampling Point: k
 Investigator(s): Jeremy Casteel, Ada Davis Section, Township, Range: Sec 3, T9N, R22E
 Landform (hillslope, terrace, etc.): Floodplain terrace Local relief (concave, convex, none): concave Slope (%): 0-1
 Subregion (LRR): MLRA 39 Lat: 34.200450N Long: 110.003810W Datum: NAD83
 Soil Map Unit Name: Overgaard-Elledge-Telephone Association NWI classification: Palustrine Emergent Wetland

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>6 ft</u> _____)				
1. <u>Deschampsia caespitosa</u>	90	Yes	FACW	
2. <u>Melilotus officinalis</u>	5	No	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
95% = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: Multiply by:
 OBL species 0 x 1 = 0
 FACW species 90 x 2 = 180
 FAC species 0 x 3 = 0
 FACU species 5 x 4 = 20
 UPL species 0 x 5 = 0
 Column Totals: 95 (A) 200 (B)
 Prevalence Index = B/A = 2.105

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point: k

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 – 20	7.5YR, 2.5/1	30					Silty Clay	
0 - 20	10YR, 3/3	65	7.5YR, 4/6	5	C	M	Silty Clay	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> 2 cm Muck (A10)
	<input type="checkbox"/> Red Parent Material (TF2)
	<input checked="" type="checkbox"/> Other (Explain in Remarks)

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

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

Remarks: Hydrophytic vegetation and wetland hydrology present at Sample Point k. The landscape setting has the following characteristics: active floodplain, nearly level area, adjacent to cliff face, adjacent to Show Low Creek, and places with groundwater discharges. According to stream gauge data from USGS between 1956 and 2005, Show Low Creek experiences consistent flow capable of ponding or flooding its historic channel for 14 or more consecutive days during the growing season in most years. Based on the presence of dominant hydrophytic vegetation, primary wetland hydrology indicators, an adequate soil profile and landscape setting, and hydrological observations, the soils at Sample Point k are classified as hydric.

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

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

Remarks:

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

Project/Site: Scott Ranch Road City/County: Show Low / Navajo Sampling Date: 6/4/09
 Applicant/Owner: City of Show Low State: AZ Sampling Point: I
 Investigator(s): Jeremy Casteel, Ada Davis Section, Township, Range: Sec 3, T9N, R22E
 Landform (hillslope, terrace, etc.): Floodplain terrace Local relief (concave, convex, none): concave Slope (%): 0-1
 Subregion (LRR): MLRA 39 Lat: 34.200450N Long: 110.003810W Datum: NAD83
 Soil Map Unit Name: Overgaard-Elledge-Telephone Association NWI classification: Palustrine Emergent Wetland

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>6 ft</u> _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Deschampsia caespitosa</i></u>	60	Yes	FACW	
2. <u><i>Carex vulpinoidea</i></u>	30	Yes	OBL	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
90% = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species 30 x 1 = 30
 FACW species 60 x 2 = 120
 FAC species 0 x 3 = 0
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column Totals: 90 (A) 150 (B)
 Prevalence Index = B/A = 2.105

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Sampling Point: I

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 – 20	7.5YR, 2.5/1	50					Silty Clay	
0 - 20	10YR, 3/3	45	7.5YR, 4/6	5	C	M	Silty Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydrophytic vegetation and wetland hydrology present at Sample Point I. The landscape setting has the following characteristics: active floodplain, nearly level area, adjacent to cliff face, adjacent to Show Low Creek, and places with groundwater discharges. According to stream gauge data from USGS between 1956 and 2005, Show Low Creek experiences consistent flow capable of ponding or flooding its historic channel for 14 or more consecutive days during the growing season in most years. Based on the presence of dominant hydrophytic vegetation, primary wetland hydrology indicators, an adequate soil profile and landscape setting, and hydrological observations, the soils at Sample Point I are classified as hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 10
 Saturation Present? Yes No Depth (inches): 6
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

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

Remarks:

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

Project/Site: Scott Ranch Road City/County: Show Low / Navajo Sampling Date: 6/4/09

Applicant/Owner: City of Show Low State: AZ Sampling Point: m

Investigator(s): Jeremy Casteel, Ada Davis Section, Township, Range: Sec 3, T9N, R22E

Landform (hillslope, terrace, etc.): Floodplain terrace Local relief (concave, convex, none): concave Slope (%): 0-1

Subregion (LRR): MLRA 39 Lat: 34.200450N Long: 110.003810W Datum: NAD83

Soil Map Unit Name: Overgaard-Elledge-Telephone Association NWI classification: Palustrine Emergent Wetland

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>6 ft</u> _____)				
1. <u>Deschampsia caespitosa</u>	50	Yes	FACW	
2. <u>Carex vulpinoidea</u>	50	Yes	OBL	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
100% = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species 50 x 1 = 50
 FACW species 50 x 2 = 100
 FAC species 0 x 3 = 0
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column Totals: 100 (A) 150 (B)
 Prevalence Index = B/A = 1.500

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point: _____ m

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 20	7.5YR, 2.5/1	10					Silty Clay	
0 - 20	10YR, 3/3	90					Silty Clay	

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | <input checked="" type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | |

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydrophytic vegetation and wetland hydrology present at Sample Point m. The landscape setting has the following characteristics: active floodplain, nearly level area, adjacent to cliff face, adjacent to Show Low Creek, and places with groundwater discharges. According to stream gauge data from USGS between 1956 and 2005, Show Low Creek experiences consistent flow capable of ponding or flooding its historic channel for 14 or more consecutive days during the growing season in most years. Based on the presence of dominant hydrophytic vegetation, primary wetland hydrology indicators, an adequate soil profile and landscape setting, and hydrological observations, the soils at Sample Point m are classified as hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

- | | | |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | | |

Field Observations:

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

Wetland Hydrology Present? Yes No

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

Remarks:

APPENDIX G

Approved Jurisdictional Determination Form

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION: Show Low Creek

State: Arizona County/parish/borough: Navajo City: Show Low
Center coordinates of site (lat/long in degree decimal format): Lat. 34.200522° **N**, Long. 110.004764° **W**.
Universal Transverse Mercator: 3,784,837.55mN / 591,693.08 mE Zone: 12S (NAD83)

Name of nearest waterbody: Show Low Lake

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Colorado River

Name of watershed or Hydrologic Unit Code (HUC): Silver Creek (HUC 15020005)

- Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
- Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

- Office (Desk) Determination. Date:
- Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

- Waters subject to the ebb and flow of the tide.
- Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: 110 linear feet: 10 - 35 width (ft) and/or 0.076 acres.
Wetlands: 0.222 acres.

c. Limits (boundaries) of jurisdiction based on: **Established by OHWM.**

Elevation of established OHWM (if known): unknown.

2. Non-regulated waters/wetlands (check if applicable):³

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: .

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 934 square miles

Drainage area: 73 square miles

Average annual rainfall: ~16 inches

Average annual snowfall: ~45 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 3 tributaries before entering TNW.

Project waters are 30 (or more) river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 30 (or more) aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW⁵: Show Low Creek flows to Silver Creek which flows to the Little Colorado River, a direct tributary of the Colorado River.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

Tributary is: Natural
 Artificial (man-made). Explain: .
 Manipulated (man-altered). Explain: The survey area is immediately downstream from Jaques

Dam and is potentially subject to manipulation of flow volume and frequency.

Tributary properties with respect to top of bank (estimate):

Average width: 30 feet
Average depth: 2 feet
Average side slopes: **4:1 (or greater)**.

Primary tributary substrate composition (check all that apply):

Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/% cover:
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Banks are relatively stable.

Presence of run/riffle/pool complexes. Explain: Yes. Pool is located within the survey area and is formed as a result of bend in watercourse. Depth of pool is 1–3 feet.

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 1.0 %

(c) Flow:

Tributary provides for: **Seasonal flow**

Estimate average number of flow events in review area/year: **20 (or greater)**

Describe flow regime: Natural (with minimal manipulation from flood control structures).

Other information on duration and volume: Show Low Creek is a perennial stream.

Surface flow is: **Confined**. Characteristics: Surface flow is consistent throughout the survey area and is confined via rock outcrops and banks.

Subsurface flow: **Unknown**. Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks
 OHWM⁶ (check all indicators that apply):
 clear, natural line impressed on the bank the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.⁷ Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by: Mean High Water Mark indicated by:
 oil or scum line along shore objects survey to available datum;
 fine shell or debris deposits (foreshore) physical markings;
 physical markings/characteristics vegetation lines/changes in vegetation types.
 tidal gauges
 other (list):

(iii) **Chemical Characteristics:**

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: Water color was clear. No discoloration or oily film was present. The tributary is subject to potential non-point source run-off from residential areas adjacent to the project area.

Identify specific pollutants, if known: Unknown.

(iv) Biological Characteristics. Channel supports (check all that apply):

Riparian corridor. Characteristics (type, average width): Consistent seasonal flow in Show Low Creek maintains a 80-120 foot wide wetland area of riparian vegetation on the southeast bank of the study area. Observed plant species occurring in the project area include tufted hairgrass (*Deschampsia cespitosa*), fox sedge (*Carex vulpinoidea*), broom sedge (*Carex scoparia*), and scouringrush horsetail (*Equisetum hyemale*). Also, Crayfish and other unknown aquatic invertebrates were observed within the project area.

Wetland fringe. Characteristics: Dominant vegetation within an approximately 1-4 foot wide wetland fringe consisting of tufted hairgrass, fox sedge, broom sedge, and scouringrush horsetail.

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: Crayfish and other unknown aquatic invertebrates were observed within

the project area.

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: Approximately 0.222 acres

Wetland type. Explain: emergent wetland.

Wetland quality. Explain: The wetland is currently undisturbed and maintains a localized community of hydrophytic flora and fauna species of a greater than average diversity in relation to the surrounding community; this diversity is generally indicative of a healthy and functioning ecosystem of average to high quality.

Project wetlands cross or serve as state boundaries. Explain: No.

(b) General Flow Relationship with Non-TNW:

Flow is: **Perennial flow**. Explain: Hydraulic data provided by Monthly USGS Surface-Water Statistics (USGS 09392000 Show Low CR BL Jaques Dam, NR Show Low, AZ) indicates that a continuous flow is present year round.

Surface flow is: **Confined**

Characteristics: Surface flow is consistent throughout the survey area and is confined via rock outcrops and steep banks. A cobbled/gravelly substrate creates riffles while steep drops create pools with sandy/silty substrate outside the project area.

Subsurface flow: **Unknown**. Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **30 (or more)** river miles from TNW.

Project waters are **30 (or more)** aerial (straight) miles from TNW.

Flow is from: **Wetland to/from navigable waters**.

Estimate approximate location of wetland as within the **2-year or less** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Water is clear. No discoloration or oily film was present. The tributary is subject to potential non-point source run-off from residential areas adjacent to the project area.

Identify specific pollutants, if known: Unknown.

(iii) Biological Characteristics. Wetland supports (check all that apply):

Riparian buffer. Characteristics (type, average width): .

Vegetation type/percent cover. Explain: Wetland plants were observed within the survey area including tufted hairgrass, fox sedge, broom sedge, and scouringrush horsetail.

Habitat for:

- Federally Listed species. Explain findings: .
- Fish/spawn areas. Explain findings: .
- Other environmentally-sensitive species. Explain findings: .
- Aquatic/wildlife diversity. Explain findings: Crayfish and other unknown aquatic invertebrates were observed within

the project area.

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **1**
 Approximately (0.222) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
Y	0.222		

Summarize overall biological, chemical and physical functions being performed: The perennial nature of the flow in Show Low Creek is a determinate factor in the maintainance of the abundance of water dependent species that occur within the survey area. A plentiful source of water is typically a basic requirement for such a diverse ecosystem, especially when occurring in the arid or semi-arid southwest. The perennial flow of Show Low Creek, as well as its adjacent wetlands, provide the elements required by a variety of plant and animal species for shelter, foraging and breeding. The habitat quality is further enhanced by the ability of the dense wetland vegetation to filter potential pollutants from the creek. Also, the diversity of physical features such as boulders, steep banks, rock outcrops and the cobbelly/gravelly bed of Show Low Creek provide an opportunity for the formation of riffle and pool complexes adjacent to the project area.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

- 1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: N/A.
- 2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: N/A.
- 3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: N/A.

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: linear feet width (ft), Or, acres.
 Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: Hydraulic data provided by Monthly USGS Surface-Water Statistics (USGS 09392000 Show Low CR BL Jaques Dam, Near Show Low, AZ) indicates that a continuous flow is present year round.
 Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: **110** linear feet **10-35** width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs⁸ that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Dominant vegetation directly abutting the OHWM of Show Low Creek consists of wetland indicator species. Dominant vegetation within the wetland areas consist of tufted hairgrass, fox sedge, broom sedge, and scouringrush horsetail. The soils adjacent to the OHWM of Show Low Creek were saturated throughout the survey area. Dominant plant species occurring immediately above the OHWM on either side of Show Low Creek, within the survey area, were identified as hydrophytic, indicators of hydric soils and wetland hydrology were also present.**
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: **0.222** acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

⁸See Footnote # 3.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
Identify type(s) of waters: .
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in “SWANCC,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
- Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

SECTION IV: DATA SOURCES.

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

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: City of Show Low.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.

⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas: Monthly USGS Surface-Water Statistics (USGS 09392000 Show Low CR BL Jaques Dam, NR Show Low, AZ).
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: USGS 7.5' Quadrangles: Lakeside, AZ (1998) and South Show Low, AZ (1998).
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name:
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): See Figures 5a-5f, aerial dated: 2007.
or Other (Name & Date): Ground Photographs: October 1, 2008 and June 4, 2009.
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:

Introduction

The City of Show Low is proposing to extend Scott Ranch Road from its current termination point, approximately 0.11 miles east of State Route (SR) 260, eastward to connect with Penrod Road. The proposed extension will allow Scott Ranch Road to serve as a connector between SR 260 and Penrod Road, creating a SR 260 bypass. The proposed project will involve construction of a bridge over Show Low Creek. This report is intended to document and support a jurisdictional determination of the project area for "waters of the United States" (Waters), as outlined by the United States Army Corps of Engineers (USACE).

Project Area Description

The project area extends eastward from the current termination of Scott Ranch Road to Penrod Road, near Show Low Lake in Navajo County, Arizona. The survey boundary is approximately 100 feet wide and is bisected by Show Low Lake Road and Show Low Creek. The project area is located within the Silver Creek Watershed (HUC 15020005) of the Lower Colorado River Basin. The survey area is centered at latitude 34.200522° north / longitude 110.004764° west (UTM 3,784,837.55 mN / 591,693.08 m E Zone: 12S (NAD83) approximately 0.25 miles north of Show Low Lake, Navajo County, Arizona. The project area is located in Sections 3, 4, and 9 of Township 9 North, Range 22 East. Refer to USGS 7.5' Quadrangles: Lakeside, AZ (1998), and Show Low South, AZ. (1998). See Appendix A for project location and detail maps.

The topography of the project area is relatively flat with an average elevation of approximately 6,500 feet above mean sea level within the Transitional Physiographic Province (Hendricks, 1985). Show Low Creek bisects the project area flowing northeasterly, creating a canyon with steep drop-offs to the creek and defining the historic creek channel.

The project area is primarily upland in nature and is characterized by the pine series of the Petran Montane Conifer Forest biotic community (Turner and Brown, 1994). Dominant upland species consist of Ponderosa pine (*Pinus ponderosa*), Alligator juniper (*Juniperus deppeana*), and New Mexico locust (*Robinia neomexicana*). In addition to upland areas, Show Low Creek and adjacent wetland areas are located within the project area. The wetlands within the project area have a National Wetlands Inventory (NWI) classification of Palustrine Emergent Wetland and consist of wetland plant species such as tufted hairgrass (*Deschampsia caespitosa*), broom sedge (*Carex scoparia*), fox sedge (*Carex vulpinoidea*), and scouringrush horsetail (*Equisetum hyemale*).

Soils in the project area are composed of the Overgaard-Elledge-Telephone Association. These soils are shallow to deep, gravelly and cobbly, moderately coarse to fine textured, undulating to very steep soils on mountains and hills. They are well-drained soils on the forested highlands along the Mogollon Rim and the deeply dissected breaks along the Rim's south edge. These soils are characterized by moderate to shallow depth to bedrock and slow permeability. The minor included soils along drainageways consist of Lynx, Tours, and Jocity. Lynx, Tours, and Jocity soils are all deep, well drained, and occur on alluvial fans and floodplains with slopes of 0 to 5 percent. Lynx soils typically have a 2-inch top layer of grayish brown loam, and the next layer of approximately 60 inches is brown and dark grayish brown light clay loam, possibly thinly stratified with gravelly sandy loam at lower depths. Tours soils typically have a top layer of reddish brown clay loam to a depth of approximately 10 inches, overlying 60 inches of reddish brown, stratified clay loam, light clay loam, and silty clay loam. Jocity soils typically have a top layer of reddish gray sandy clay loam to a depth of approximately 9 inches, overlying reddish gray sandy clay loam 32 inches thick over gray fine sandy loam 28 inches thick (Hendricks, 1985).

Methodology

Prior to undertaking a site survey, an office review of available aerial photographs, floodplain maps, soil maps, topographic maps, NWI Maps, hydrological data, and other historic information was carried out in order to assist with the field identification of possible Waters, including wetlands, within the project area.

On October 1, 2008 and June 4, 2009, Logan Simpson Design Inc. conducted an on-site jurisdictional delineation for the presence of Waters, including wetlands, within the survey area. The jurisdictional delineation for washes and wetlands was conducted in accordance with the 2008 USACE A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, the 1987 Corps of Engineers Wetland Delineation Manual, and the 2008 Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast (Interim Regional Supplement).

Jurisdictional washes were determined by assessing the presence or absence of an Ordinary High Water Mark (OHWM). Characteristics of the OHWM include, but are not limited to, vegetation difference between wash and upland, change in soil characteristics, waterline mark on the bank, water stains, shelving or cut banks, exposed roots, sediment deposits, and presence of litter or debris. Upstream and downstream photographs were taken of Show Low Creek and photograph locations were recorded and mapped.

The wetland delineation was completed by assessing the presence of hydrophytic vegetation, hydric soil, and wetland hydrology at thirteen sample points within or adjacent to the project area. Sample points were established in each identified vegetative community and evaluated for wetland characteristics. Data for each sample point were recorded on a USACE Wetland Determination Data Form-Western Mountains, Valleys, and Coast Region. Additionally, photographs were taken of the vicinity of each sample point, and their locations identified on aerial maps. Wetland characteristics at each sample point were evaluated using the following methodology:

- The vegetation at each sample point was assessed for each identified stratum (herb, sapling/shrub, and/or tree) within a six-foot radius for herbaceous plants, and a thirty-foot radius for trees and saplings/shrubs. The percent cover was determined by estimating area cover of each species within each stratum. The indicator status of each species was then determined by using the USFWS National List of Plant Species that Occur in Wetlands, Region 7, 1988. If greater than 50 percent of the total dominant plant species within all strata was obligate (OBL), facultative-wet (FACW), or facultative (FAC), or if the prevalence index was less than or equal to 3.0, the sample point was determined to meet the hydrophytic vegetation wetland parameter.
- Soils were evaluated by digging a pit approximately 20-inches in depth at the sample point. The soil was then cut to profile to evaluate characteristics such as color, texture, and moisture at various depths, as well as the presence of hydric soil indicators such as redox features or hydrogen sulfide. If the soil characteristics met the criteria for any of the hydric soil indicators, the sample point was determined to meet the hydric soil wetland parameter.
- Hydrology was determined by observation of indicators such as saturation, high water table, sediment deposits, water-stained leaves, and drift deposits at each sample point. If at least one primary hydrology indicator or at least two secondary indicators were identified, the sample point was determined to meet the wetland hydrology parameter.

Jurisdictional Delineation Results

The site visit confirmed that the 2007 aerial photographs utilized for the Jurisdictional Delineation accurately depict the current condition of the project area (Appendix A, Figures 5a-5f). One wash, Show Low Creek (Wash 1), was identified within the project area during the site visit as exhibiting physical characteristics of Waters. Additionally, a wetland adjacent to either side of Wash 1 (Wetland 1) was identified as having all three required wetland characteristics (hydrophytic vegetation, hydric soil, and wetland hydrology). Please refer to Appendix B for summary tables of jurisdictional characteristics for the wash and wetland.

Show Low Creek (Wash 1) is considered a Relatively Permanent Water due to the presence of flow greater than 3 months during each year, according to hydrological information provided by a Stream Gauge Table for Show Low Creek (see Appendix C for the Stream Gauge Table). Through a combination of snow melt, natural springs, precipitation events, and flow from upstream tributaries, Show Low Creek experiences consistent flow capable of ponding and/or flooding its historic channel for 14 or more consecutive days during the growing season in most years. In addition, repeated direct hydrological observations confirm that this portion of Show Low Creek can be classified as a perennial stream under current USACE guidelines, as it possesses flow year-round. Show Low Creek flows into Silver Creek which flows into the Little Colorado River which flows into the Colorado River, a Traditional Navigable Water. The bottom of Show Low Creek is mainly a cobble composition, and riffle and pool complexes were noted within and adjacent to the project area. The main indicators of Waters observed for Wash 1 were: vegetative difference between wash and upland, change in soil characteristics, waterline mark on the bank, shelving and cut banks, exposed roots, sediment deposits, and presence of litter or debris. Based on a combination of these criteria, a jurisdictional width of 10-35 feet is recommended. Please refer to Appendix D for Ground Photographs of Show Low Creek.

Wetland 1 (W1) is located on the banks of Show Low Creek (Wash 1) and is classified as Palustrine emergent wetland. W1 is approximately 0.222 acres in size and extends beyond the project area to the southwest and northeast on both sides of Show Low Creek. The wetland area on the northwest bank of the creek is a fringe wetland with a narrow margin of indicator species which quickly transitions into a rocky outcropping upon which Canyon grape (*Vitis arizonica*) and Alligator juniper (*Juniperus deppeana*) occur in abundance. The wetland area on the southeast bank of the creek is located within a floodplain terrace and lacks the sudden rocky upland transition of the northwest bank.

W1 is dominated by a variety of wetland indicator plant species. Dominant vegetation within the wetland consists of wetland indicator species such as tufted hairgrass (*Deschampsia cespitosa*), fox sedge (*Carex vulpinoidea*), broom sedge (*Carex scoparia*), and scouringrush

horsetail (*Equisetum hyemale*). A dominance test of plant species indicates that greater than 50 percent of dominant plant species are considered either OBL, FACW and/or FAC in the vicinity of all sample points within W1. In addition, the prevalence index was less than or equal to 3.0 for each of the sample points within W1, which signifies that wetland indicator plant species are dominant. Based on the fact that the plant community within W1 passes the dominance test and the prevalence test, the vegetation within W1 is considered hydrophytic.

Primary indicators of wetland hydrology were observed within W1. Primary indicators such as surface water, soil saturation, sediment and drift deposits, and aquatic invertebrates were observed during the field reconnaissance and provide evidence that adequate inundation and/or saturation has occurred and conditions have been sufficient to produce a characteristic wetland vegetative community and hydric soil morphology.

Hydric soils are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions near the surface (USDA Soil Conservation Service, 1994). Soils within W1 meet the definition of a hydric soil since flows from Show Low Creek flood the surrounding floodplain terrace for 14 or more consecutive days during the growing season in most years, and redox concentration mottling (an anaerobic condition) was observed at the majority of the sample points within W1. However, the soils do not exhibit any of the indicators as described in Chapter 3 of the Interim Regional Supplement and are therefore classified as Problematic hydric soils. The presence or absence of hydric soils was determined through the use of the procedure outlined in Chapter 5 of the Interim Regional Supplement for Problematic hydric soils, which includes the verification of 1) hydrophytic vegetation indicators, 2) wetland hydrology indicators, 3) documentation of soil profile and landscape setting, and 4) determination of hydric soils.

Hydrophytic vegetation and wetland hydrology are present within W1, as discussed above. The soil profile of the wetland area on the southeast bank of Show Low Creek is characterized by silty clay, with a rocky substrate present on the northwest bank. The landscape setting within W1 has the following characteristics: a concave surface at the location of the stream bed, located within an active floodplain, a nearly level area with a majority of the project area possessing a gradient of 0%–3%, located adjacent to a cliff face, located adjacent to a water body (Show Low Creek), and has places with groundwater discharges. The soil profile and landscape setting provides excellent conditions for the concentration of water to Show Low Creek. Finally, W1 exhibits hydrological characteristics, as shown by stream gauge data from USGS between 1956 and 2005. According to the stream gauge data, Show Low Creek experiences consistent flow capable of ponding or flooding its historic channel for 14 or more consecutive days during the growing season in most years. In conclusion, the recommended procedure for identifying problem soils confirmed that soils within W1 are hydric through the presence of dominant hydrophytic vegetation, primary wetland hydrology indicators, an adequate soil profile and landscape setting, and hydrological observations. Discussion of the presence or absence of hydric soils for each sample point is included on the Wetland Determination Data Forms.

W1 meets the required parameters for hydrophytic vegetation, wetland hydrology, and hydric soils as outlined in the Interim Regional Supplement, and should therefore be considered jurisdictional.

Summary

In summary, one wash (Show Low Creek, Wash 1) and one wetland (W1) were noted within the proposed project area. The wash and wetland identified meet the definition of Waters and should be considered jurisdictional.