DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

August 18, 2009

Regulatory Division SPK-2009-00594

Kenneth Albright
SNWA
100 City Parkway
Las Vegas, Nevada 89193

Dear Mr. Albright:

We are responding to your request for an approved jurisdictional determination for the Clark, Lincoln and White Pine Counties Groundwater Development project. This project consists of construction and operation of groundwater conveyance, treatment facilities and power conveyance facilities. The project includes main and lateral pipelines requiring approximately 306 miles of buried water pipelines, which will include approximately 3651 acres of permanent right-of-way and 3668 acres of temporary right-of-way. This project will impact approximately 4.5 acres of ephemeral drainages that are considered jurisdictional under Section 404 of the Clean Water Act. Of these impacts, only 0.02 acres are considered to be permanent impacts. The project is located within three counties; Clark, Lincoln and White Pine Counties and crosses numerous hydrologic basins.

Based on available information, we concur with the estimate of waters of the United States, as depicted on the Figures 2A through 2AA, dated August 24, 2008, included in the May 2009 report, "Waters of the United States Preliminary Jurisdictional Determination Report for the Southern Nevada Water Authority Clark, Lincoln and White Pine Counties Groundwater Development Project", prepared by the Southern Nevada Water Authority. Approximately 4.5 acres of waters of the United States, including wetlands, are present within the survey area. These waters are regulated under Section 404 of the Clean Water Act.

This verification is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. This letter contains an approved jurisdictional determination for your subject site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331.

A Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form is enclosed. If you request to appeal this determination you must submit a completed RFA form to the South Pacific Division Office at the following address: Administrative Appeal Review Officer, Army Corps of Engineers, South Pacific Division, CESPD-PDS-O, 1455 Market Street, San Francisco, California 94103-1399, Telephone: 415-503-6574, FAX: 415-503-6646.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the NAP. Should you decide to submit an RFA form, it must be received at the above address by 60 days from the date of this letter. It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this letter.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This determination has been conducted to identify the limits of Corps of Engineers' Clean Water Act jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

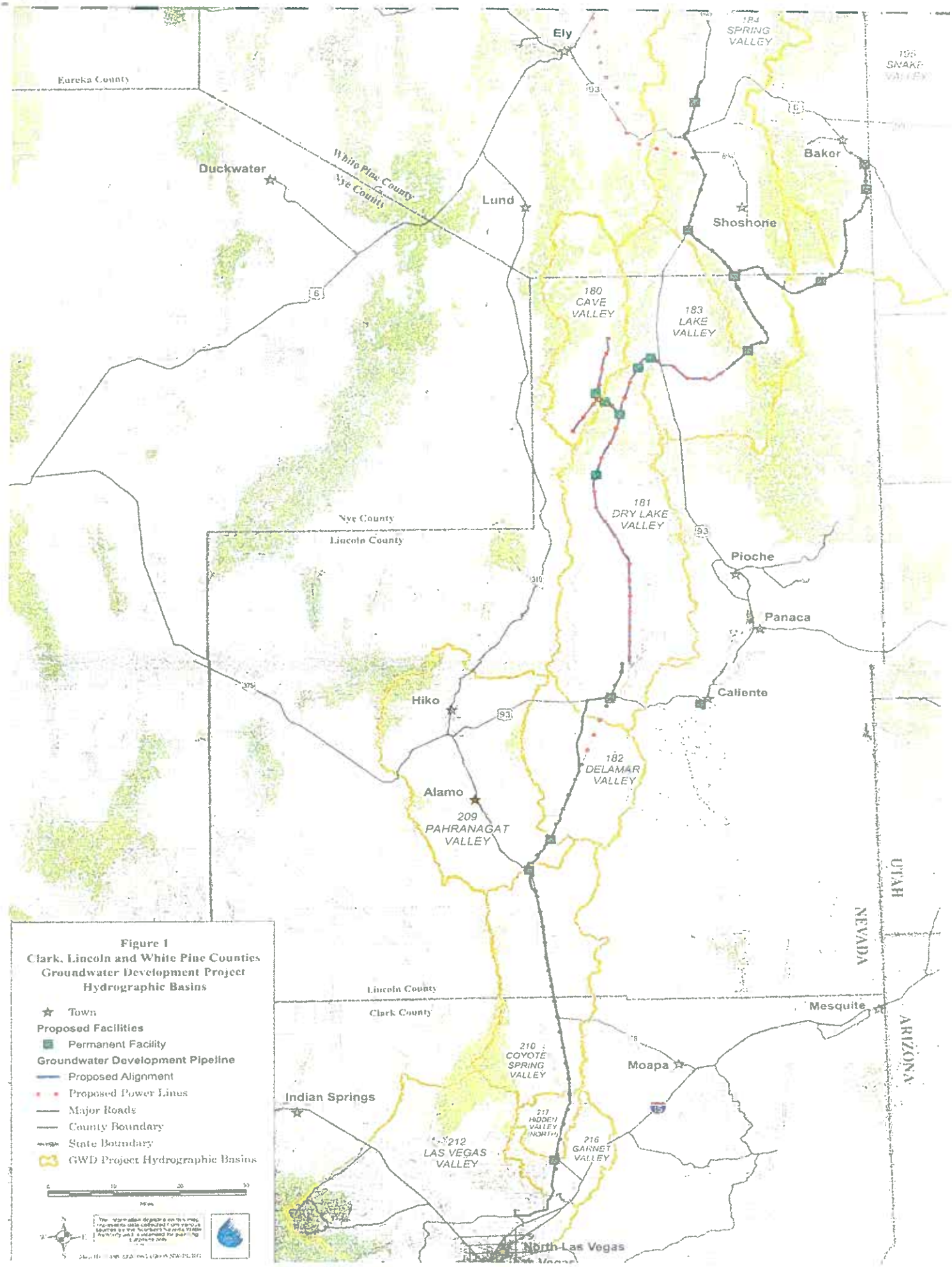
Please refer to identification number SPK-2009-00594 in any correspondence concerning this project. If you have any questions, please contact Patricia Mcqueary at 321 North Mall Drive, Suite L-101, St. George, Utah 84790, email *Patricia.L.McQueary@usace.army.mil*, or telephone 435-986-3979.

Sincerely,

Patricia L. McQueary
Chief, St. George Regulatory Office
Sacramento District

Enclosure(s)
JD Determination Forms
Appeal Form

Copy furnished without enclosure(s)
Derek Babcock, Environmental Planner, Southern Nevada Water Authority, 100 City Parkway, Suite 700, Las Vegas, Nevada 89106
Lisa Luptowitz, Senior Environmental Planner, Southern Nevada Water Authority, 100 City Parkway, Suite 700, Las Vegas, Nevada 89106
Penny Woods, Nevada Groundwater Projects Nevada State Office, Bureau of Land Management, 1340 Financial Blvd, Reno NV 89520 0006


Ely
184 SPRING VALLEY
196 SNAKE VALLEY
Eureka County
White Pine County
Nye County
Duckwater
Lund
Baker
Shoshone
180 CAVE VALLEY
183 LAKE VALLEY
181 DRY LAKE VALLEY
Nye County
Lincoln County
Pioche
Panaca
Caliente
Hiko
182 DELAMAR VALLEY
Alamo
209 PAHRANAGAT VALLEY
UTAH
NEVADA
ARIZONA
Lincoln County
Clark County
Mesquite
210 COYOTE SPRING VALLEY
Moapa
Indian Springs
217 HIDDEN VALLEY NORTH
216 GARNET VALLEY
212 LAS VEGAS VALLEY
North Las Vegas
Figure 1
Clark, Lincoln and White Pine Counties
Groundwater Development Project
Hydrographic Basins
Town
Proposed Facilities
Permanent Facility
Groundwater Development Pipeline
Proposed Alignment
Proposed Power Lines
Major Roads
County Boundary
State Boundary
GWD Project Hydrographic Basins

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

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): August 14, 2009.

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: **Sacramento District**, St. George Regulatory Office, SPK-2009-0594.
Name of water being evaluated on this JD form: Snake Creek Basin

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: Nevada County: White Pine City: Baker
Center coordinates of site (lat/long in degree decimal format): Lat: 38.9 **N**, Long: -114.06 **W**
Universal Transverse Mercator: .
Name of nearest waterbody: Snake Creek.
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: None.
Name of watershed or Hydrologic Unit Code (HUC): 16020301.
☒ 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. List other JDs: Additional Watersheds include Las Vegas Wash, Pahragant, and Coyote Springs

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: August 14, 2009.
☐ 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 waters[2] (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: 1411 linear feet _____ width (ft) and/or _____ acres.
      Wetlands: _____ acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Established by OHWM.** and **1987 Delineation Manual.**
      Elevation of established OHWM (if known): _____.

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: _____.

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[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: NOT APPLICABLE

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

C. SIGNIFICANT NEXUS DETERMINATION: NOT APPLICABLE

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE: NOT APPLICABLE

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):[4]

- ☐ 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: The Snake Creek Basin is an isolated watershed that is located in both Nevada and Utah. The drainages flow into Snake Creek, which flows into Lake Creek and crosses from Nevada into Utah.
- ☐ Other factors. Explain: _____.

Identify water body and summarize rationale supporting determination: **The drainages associated with this jurisdictional determination flow into Snake Creek, which is a tributary of Lake Creek. Both Snake and lake Creek cross from Nevada into Utah several times, as do some of the drainages.**

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

- ☒ Tributary waters: 1411 linear feet _____ width (ft).
- ☐ Other non-wetland waters: ____ acres.
  - Identify type(s) of waters: _____.
- ☐ Wetlands: ____ acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS:

- ☐ 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).
- ☐ 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: SNWA, 2009.

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[4] **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/submitted by or on behalf of the applicant/consultant.
  - ☒ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: _____.
- ☐ Corps navigable waters' study: _____.
- ☒ U.S. Geological Survey Hydrologic Atlas: http://www-atlas.usgs.gov/natlas/Natlasstart.asp.
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: _____
- ☐ 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 Geodectic Vertical Datum of 1929)
- ☐ Photographs: ☐ Aerial (Name & Date): _____
  or ☐ Other (Name & Date): _____.
- ☐ Previous determination(s). File no. and date of response letter: _____.
- ☐ Applicable/supporting case law: _____.
- ☐ Applicable/supporting scientific literature: Mojave Desert Network Vital Signs Monitoring Plan, 2008.
- ☐ Other information (please specify): _____.

B. ADDITIONAL COMMENTS TO SUPPORT JD: Due to the high elevation of the Snake Range, reaching 3,982 m (13,063 ft) at Wheeler Peak within the park, this range receives more moisture than many adjacent mountain ranges. Average annual precipitation in surrounding valleys is approximately 15 cm (6 in). Within the park, average annual precipitation at Lehman Cave is approximately 30 cm (12 in) but may range up to 63+ cm (25+ in) at high elevations (e.g. Wheeler Peak). Most surface water is derived from snowpack and precipitation for which long-term monitoring records exist within the park for 63 (since 1942) and 68 years (since 1937), respectively. Park staff have identified twenty-five watersheds within park boundaries ranging in size from 58 ha (143 ac) (Pole Canyon watershed) to 5,270 ha (13,021 ac) (Snake watershed). Park staff classify resource management activities in the park by watershed(See above reference).

Hydrographic Valley	WOUSID #	Length(feet)	Area of Impact(acres)	Lat	Long
Snake	WOUS-70	753	0.052	-114.07 N	38.85 E
Snake	WOUS-71	352	0.032	-114.06 N	38.88 E
Snake	WOUS-72	306	0.021	-114.06 N	38.92 E.

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): August 14, 2009

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, St. George Regulatory Office, SPK-2009-0594-SG

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **Nevada** County: **Clark** City: NA
Center coordinates of site (lat/long in degree decimal format): Lat. **37.12 E**, Long. **-115.00 N**.
Name of nearest water body: **Coyote Springs**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Colorado River/Lake Mead**
Name of watershed or Hydrologic Unit Code (HUC): **Coyote Springs**
X Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
X 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. Snake Creek JD, Las Vegas Wash JD, Pahragant JD
D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
Office (Desk) Determination. Date: July 23, 2007
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: 33 CFR Part 329, Declaration by Congress that the Osage is navigable in 1904, and 1931 LO Navigational Determination.

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
X 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: linear feet: width (ft) and/or approximately 2.85 acres.

Wetlands: acres.

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

Elevation of established OHWM (if known): feet

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

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

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs – Not applicable

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: 657 square miles

Drainage area: 420,480 acres

Average annual rainfall: 6.25 inches

Average annual snowfall: 1.4 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

X Tributary flows through **3** tributaries before entering TNW.

Project waters are ~**70 miles** river miles from TNW.
Project waters are ~0-13.0 river miles from RPW.
Project waters are ~**55.0** aerial (straight) miles from TNW.
Project waters are ~**0-15.0** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: **Waters associated with the Coyote Springs Hydrologic Basin do not serve or cross state boundaries.**
Identify flow route to TNW: These drainages flow into the Muddy River and/or Kane Springs, both of which would be classified as RPWs.
Tributary stream order, if known: 4th order

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

Tributary is:

X Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

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

Average width: 2.1 feet
Average depth: 0.125 feet
Average side slopes: **2:1**

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: These drainages probably experience some erosion considering they are tributaries of the Muddy River. However, the system is relatively stable except in cases of flash flood events.
Presence of run/riffle/pool complexes. Explain: None present.
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Ephemeral flow**
Estimate average number of flow events in review area/year: **2-5**
Describe flow regime: This is a relatively flashy system. Rain events are sporadic and very localized.
Other information on duration and volume:

Surface flow is: **ephemeral.** Characteristics: .
Subsurface flow: **unknown**. Explain findings: .
Dye (or other) test performed: N/A
Tributary has (check all that apply):
X Bed and banks
X OHWM (check all indicators that apply):

X clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	X the presence of wrack line
☐ vegetation matted down, bent, or absent	X sediment sorting
☐ leaf litter disturbed or washed away	X scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community

☐ other (list):
☐ Discontinuous OHWM. Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply): Not applicable.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). When water is present, it is most likely sediment laden.
Explain: None known. The area is relatively free of development
.Identify specific pollutants, if known: .

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

☐ Riparian corridor. Characteristics (type, average width): Minimal vegetation present.
☐ Wetland fringe. Characteristics: None noted.

Habitat for:

X Federally Listed species. Explain findings: Possible habitat for Desert Tortoise.
☐ Fish/spawn areas. Explain findings: None present in ephemeral drainages.
☐ Other environmentally-sensitive species. Explain findings: Gila Monster.
☐ Aquatic/wildlife diversity. Explain findings: Limited.

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW
Not Applicable

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 food-webs?
• 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: .
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: .
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:

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: NA

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

3. Non-RPWs that flow directly or indirectly into TNWs.

X Water-body 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):

X Tributary waters: linear feet width (ft). 47420 feet

☐ Other non-wetland waters: acres.

Identify type(s) of waters: Ephemeral drainages.

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

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

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

7. Impoundments of jurisdictional waters. NA

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): NA

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

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):

X Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .

X Data sheets prepared/submitted by or on behalf of the applicant/consultant.

X Office concurs with data sheets/delineation report.

☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
    ☐ USGS NHD data.
    ☐ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name: .
☐ 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 Geodectic Vertical Datum of 1929)
X Photographs:
    X Aerial (Name & Date): .
    ☐ Other (Name & Date): .
X Previous determination(s): Coyote Springs Investment, SPK-2007-0327
☐ Applicable/supporting case law:
☐ Applicable/supporting scientific literature:
☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: This is a large drainage basin that supports the Muddy River, which flows directly into Lake Mead/Colorado River. Historically, the Muddy River joined the Virgin River and then flowed into Lake Mead. With the creation of Lake Mead, the Muddy River is no longer a tributary of the Virgin River.

Acreage of Waters of the U.S Impacted					
Hydrographic Valley	**WOUS ID #**	**Length (feet)**	**Area of Impact (acres)**	**Lat**	**Long**
Coyote Spring	WOUS-1	344	0.024	-114.98 N	36.98 E
Coyote Spring	WOUS-2	300	0.069	-114.98 N	36.98 E
Coyote Spring	WOUS-3	307	0.028	-114.98N	36.98 E
Coyote Spring	WOUS-4	327	0.030	-114.98 N	36.99 E
Coyote Spring	WOUS-5	916	0.063	-114.98 N	36.99 E
Coyote Spring	WOUS-11	510	0.035	-114.98 N	37.00 E
Coyote Spring	WOUS-12	546	0.038	-114.98 N	37.00 E
Coyote Spring	WOUS-13	315	0.058	-114.98 N	37.01 E
Coyote Spring	WOUS-14	3878	0.445	-114.98 N	37.01 E
Coyote Spring	WOUS-15	906	0.042	-114.98 N	37.01E
Coyote Spring	WOUS-16	469	0.032	-115.00 N	37.11 E
Coyote Spring	WOUS-17	330	0.019	-115.00 N	37.12 E
Coyote Spring	WOUS-18	210	0.010	-155.01 N	37.14 E
Coyote Spring	WOUS-19	614	0.042	-115.01 N	37.14 E
Coyote Spring	WOUS-19	874	0.060	-115.01 N	37.14 E
Coyote Spring	WOUS-20	209	0.005	-115.02 N	37.15 E
Coyote Spring	WOUS-22	273	0.019	-115.02 N	37.16 E
Coyote Spring	WOUS-23	490	0.028	-115.02 N	37.16 E
Coyote Spring	WOUS-24	4603	0.211	-115.01 N	37.18 E
Coyote Spring	WOUS-29	426	0.029	-114.95 N	36.8 E
Coyote Spring	WOUS-30	363	0.025	-114.94 N	36.78 E
Coyote Spring	WOUS-30	91	0.006	-114.94 N	36.78 E
Coyote Spring	WOUS-31	209	0.012	-114.94 N	36.78 E
Coyote Spring	WOUS-32	330	0.023	-114.94 N	36.78 E
Coyote Spring	WOUS-33	323	0.022	-114.95 N	36.78 E
Coyote Spring	WOUS-34	233	0.011	-114.94 N	36.76 E
Coyote Spring	WOUS-34	104	0.005	-114.94 N	36.76 E
Coyote Spring	WOUS-35	456	0.021	-114.94 N	36.75 E
Coyote Spring	WOUS-36	306	0.035	-114.94 N	36.75 E
Coyote Spring	WOUS-37	317	0.018	-144.94 N	36.75 E
Coyote Spring	WOUS-38	326	0.019	-114.94 N	36.75 E
Coyote Spring	WOUS-39	334	0.034	-114.94 N	36.75 E
Coyote Spring	WOUS-40	356	0.025	-114.94 N	96.74 E
Coyote Spring	WOUS-41	341	0.043	-114.94 N	36.74 E
Coyote Spring	WOUS-42	312	0.018	-114.94 N	36.73 E
Coyote Spring	WOUS-43	559	0.032	-114.94 N	36.73 E
Coyote Spring	WOUS-44	348	0.020	-114.94 N	36.72 E
Coyote Spring	WOUS-45	334	0.031	-114.93 N	36.72 E
Coyote Spring	WOUS-46	304	0.021	-114.93 N	36.71 E
Coyote Spring	WOUS-47	317	0.015	-114.93 N	36.70 E
Coyote Spring	WOUS-48	327	0.015	-114.93 N	36.70 E
Coyote Spring	WOUS-49	1669	0.153	-114.93 N	36.68 E
Coyote Spring	WOUS-50	392	0.027	-114.92 N	36.66 E
Coyote Spring	WOUS-51	322	0.007	-114.92 N	36.65 E
Coyote Spring	WOUS-52	319	0.015	-114.92 N	36.65 E
Coyote Spring	WOUS-53	362	0.033	-114.92 N	36.65 E

Coyote Spring	WOUS-54	313	0.014	-114.92 N	36.64 E
Coyote Spring	WOUS-55	317	0.015	-114.92 N	36.64 E
Coyote Spring	WOUS-56	323	0.022	-114.92 N	36.64 E
Coyote Spring	WOUS-57	392	0.018	-114.92 N	36.63 E
Coyote Spring	WOUS-58	306	0.014	-114.92 N	36.63 E
Coyote Spring	C 2-A	172	0.008	-114.95 N	36.85 E
Coyote Spring	C 2-A	311	0.014	-114.95 N	36.85 E
Coyote Spring	C 3-A	203	0.006	-114.95 N	36.86 E
Coyote Spring	C 3-A	101	0.003	-114.95 N	36.86 E
Coyote Spring	C 4-A	209	0.007	-114.95 N	36.86 E
Coyote Spring	C 4-A	835	0.029	-114.96 N	36.86 E
Coyote Spring	C 4-B	209	0.009	-114.95 N	36.86 E
Coyote Spring	C 4-B	114	0.005	-114.96 N	36.86 E
Coyote Spring	C 5-A	221	0.010	-114.95 N	36.86 E
Coyote Spring	C 5-A	106	0.005	-114.96 N	36.86 E
Coyote Spring	C 5-B	206	0.006	-114.95 N	36.86 E
Coyote Spring	C 5-B	101	0.003	-114.96 N	36.86 E
Coyote Spring	C 5-C	213	0.009	-114.95 N	36.86 E
Coyote Spring	C 5-C	103	0.004	-114.96 N	36.86 E
Coyote Spring	C 6-A	103	0.003	-114.96 N	36.86 E
Coyote Spring	C 6-A	220	0.006	-114.96 N	36.86 E
Coyote Spring	C 7-A	109	0.002	-114.96 N	36.87 E
Coyote Spring	C 7-A	230	0.005	-114.96 N	36.87 E
Coyote Spring	C 8-A	100	0.004	-114.96 N	36.87 E
Coyote Spring	C 8-A	206	0.009	-114.96 N	36.87 E
Coyote Spring	C 9-B	118	0.003	-114.96 N	36.87 E
Coyote Spring	C 9-B	338	0.008	-114.96 N	36.87 E
Coyote Spring	C 10-A	102	0.004	-114.96 N	36.88 E
Coyote Spring	C 10-A	209	0.009	-114.96 N	36.88 E
Coyote Spring	C 11-A	108	0.003	-114.96 N	36.88 E
Coyote Spring	C 11-A	355	0.010	-114.96 N	36.88 E
Coyote Spring	C 11-B	114	0.003	-114.96 N	36.88 E
Coyote Spring	C 11-B	210	0.006	-114.96 N	36.88 E
Coyote Spring	C 12	101	0.003	-114.96 N	36.89 E
Coyote Spring	C 12	202	0.007	-114.96 N	36.89 E
Coyote Spring	C 13	108	0.005	-114.96 N	36.90 E
Coyote Spring	C 13	202	0.009	-114.96 N	36.89 E
Coyote Spring	C 14	100	0.005	-114.96 N	36.90 E
Coyote Spring	C 14	206	0.009	-114.96 N	36.90 E
Coyote Spring	C 14	148	0.007	-114.96 N	36.90 E
Coyote Spring	C 15	100	0.003	-114.96 N	36.90 E
Coyote Spring	C 15	206	0.007	-114.96 N	36.90 E
Coyote Spring	C 16	102	0.005	-114.96 N	36.91 E
Coyote Spring	C 16	201	0.009	-114.96 N	36.91 E
Coyote Spring	C 17	99	0.003	-114.96 N	36.92 E
Coyote Spring	C 17	196	0.007	-114.97 N	36.91 E
Coyote Spring	C 18	303	0.014	-114.97 N	36.92 E
Coyote Spring	C 18	434	0.020	-144.97 N	36.92 E
Coyote Spring	C 19	109	0.005	-114.97 N	36.92 E
Coyote Spring	C 19	210	0.010	-114.97 N	36.92 E
Coyote Spring	C 20-A	97	0.004	-114.97 N	36.93 E
Coyote Spring	C 20-A	264	0.012	-114.97 N	36.93 E
Coyote Spring	C 20-B	103	0.005	-114.97 N	36.93 E
Coyote Spring	C 21	98	0.003	-114.97 N	36.93 E

Coyote Spring	C 21	214	0.006	-114.97 N	36.93 E
Coyote Spring	C 22-A	109	0.003	-114.97 N	36.94 E
Coyote Spring	C 22-A	243	0.007	-114.97 N	36.94 E
Coyote Spring	C 23-A	100	0.003	-114.97 N	36.94 E
Coyote Spring	C 23-A	199	0.007	-114.97 N	36.95 E
Coyote Spring	C 23-B	186	0.006	-114.97 N	36.94 E
Coyote Spring	C 23-B	198	0.007	-114.97 N	36.95 E
Coyote Spring	C 24-A	325	0.007	-114.97 N	36.95 E
Coyote Spring	C 24-A	101	0.002	-114.97 N	36.95 E
Coyote Spring	C 25-A	321	0.009	-114.97 N	36.95 E
Coyote Spring	C 25-A	94	0.003	-114.97 N	36.95 E
Coyote Spring	C 26-A	96	0.003	-114.97 N	36.95 E
Coyote Spring	C 26-A	200	0.006	-114.97 N	36.95 E
Coyote Spring	C 27-A	99	0.003	-114.97 N	36.95 E
Coyote Spring	C 28-A	273	0.011	-114.97 N	36.95 E
Coyote Spring	C 28-A	621	0.026	-114.97 N	36.95 E
Coyote Spring	CS-C	339	0.049	-114.97 N	36.97 E
Coyote Spring	CS-D	380	0.064	-114.97 N	36.96 E
Coyote Spring	F 4	99	0.005	-114.94 N	36.80 E
Coyote Spring	F 4	214	0.010	-114.94 N	36.80 E
Coyote Spring	F 4.5	106	0.004	-114.94 N	36.80 E
Coyote Spring	F 4.5	216	0.008	-114.94 N	36.80 E
Coyote Spring	F 5	102	0.003	-114.94 N	36.80 E
Coyote Spring	F 5	212	0.007	-114.94 N	36.80 E
Coyote Spring	F 6	104	0.005	-114.95 N	36.81 E
Coyote Spring	F 6	211	0.011	-114.95 N	36.81 E
Coyote Spring	F 7	100	0.004	-114.95 N	36.81 E
Coyote Spring	F 7	205	0.008	-114.95 N	36.81 E
Coyote Spring	F 8	98	0.002	-114.95 N	36.82 E
Coyote Spring	F 8	207	0.005	-114.95 N	36.82 E
Coyote Spring	F 9	102	0.004	-114.95 N	36.82 E
Coyote Spring	F 9	210	0.009	-114.95 N	36.82 E
Coyote Spring	F 10	102	0.002	-114.95 N	36.82 E
Coyote Spring	F 10	207	0.005	-114.95 N	36.82 E
Coyote Spring	F 11	110	0.004	-114.95 N	36.83 E
Coyote Spring	F 11	261	0.009	-114.95 N	36.83 E
Coyote Spring	F 12	101	0.002	-114.95 N	36.83 E
Coyote Spring	F 12	206	0.005	-114.95 N	36.83 E
Coyote Spring	F 13	542	0.025	-114.95 N	36.83 E
Coyote Spring	F 13	234	0.011	-114.95 N	36.84 E
Coyote Spring	F 14	99	0.003	-114.95 N	36.84 E
Coyote Spring	F 14	210	0.007	-114.95 N	36.84 E
Coyote Spring	F 15	103	0.002	-114.95 N	36.84 E
Coyote Spring	F 15	226	0.005	-114.95 N	36.84 E
Coyote Spring	F 16	106	0.005	-114.95 N	36.84 E
Coyote Spring	F 16	201	0.009	-114.95 N	36.84 E
Coyote Spring	F 17	108	0.004	-114.95 N	36.85 E
Coyote Spring	F 17	205	0.007	-114.95 N	36.85 E
Coyote Spring	KS-9	730	0.039	-114.97 N	36.97 E

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): August 14, 2009

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, St. George Regulatory Office, SPK-2009-0594-SG

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **Nevada** County: **Clark** City: NA
Center coordinates of site (lat/long in degree decimal format): Lat. **36.30 E**, Long. **-115.00 N**.
Name of nearest water body: **Las Vegas Wash**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Colorado River/Lake Mead**
Name of watershed or Hydrologic Unit Code (HUC): **Las Vegas Wash** - 15010015
X Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
X 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. Snake Creek JD, Coyote Springs JD, Pahragant JD
D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
Office (Desk) Determination. Date: August 17, 2009
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: 33 CFR Part 329, Declaration by Congress that the Osage is navigable in 1904, and 1931 LO Navigational Determination.

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
- X 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: 4207 linear feet: width (ft) and/or approximately 0.357 acres.

Wetlands: acres.

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

Elevation of established OHWM (if known): feet

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

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

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs – Not applicable

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: 1564 square miles

Drainage area: 1,000,960 acres

Average annual rainfall: 4.27 inches

Average annual snowfall: 0.1 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

X Tributary flows through **4** tributaries before entering TNW.

Project waters are ~ **22.0 miles** river miles from TNW.
Project waters are ~11.0 river miles from RPW.
Project waters are ~**17.0** aerial (straight) miles from TNW.
Project waters are ~**9.0** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: **Waters associated with the Las Vegas Wash do not serve or cross state boundaries.**
Identify flow route to TNW: These drainages flow through several unnamed ephemeral drainages and flood control structures before entering Las Vegas Wash.
Tributary stream order, if known: 4th order

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

Tributary is:

X Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

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

Average width: 3.875 feet
Average depth: 0.125 feet
Average side slopes: **2:1**

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: These drainages probably experience some erosion. However, the system is relatively stable except in cases of flash flood events.

Presence of run/riffle/pool complexes. Explain: None present.
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): 2%

(c) Flow:

Tributary provides for: **Ephemeral flow**
Estimate average number of flow events in review area/year: **2-5**
Describe flow regime: This is a relatively flashy system. Rain events are sporadic and very localized.
Other information on duration and volume:

Surface flow is: **ephemeral.** Characteristics: .
Subsurface flow: **unknown**. Explain findings: .
Dye (or other) test performed: N/A
Tributary has (check all that apply):
X Bed and banks
X OHWM (check all indicators that apply):

X clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	X the presence of wrack line
☐ vegetation matted down, bent, or absent	X sediment sorting
☐ leaf litter disturbed or washed away	X scour
☐ sediment deposition	☐ multiple observed or predicted flow events

☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM. Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply): Not applicable.

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). When water is present, it is most likely sediment laden.
Explain: None known. Some development in the area
.Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):
☐ Riparian corridor. Characteristics (type, average width): Minimal vegetation present.
☐ Wetland fringe. Characteristics: None noted.
Habitat for:
X Federally Listed species. Explain findings: Possible habitat for Desert Tortoise.
☐ Fish/spawn areas. Explain findings: None present in ephemeral drainages.
☐ Other environmentally-sensitive species. Explain findings: Gila Monster.
☐ Aquatic/wildlife diversity. Explain findings: Limited.

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW
Not Applicable

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 food-webs?
• 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: .
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: .
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:

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: NA

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

3. Non-RPWs that flow directly or indirectly into TNWs.

X Water-body 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):

X Tributary waters: linear feet width (ft). 4207 feet

☐ Other non-wetland waters: acres.

Identify type(s) of waters: Ephemeral drainages.

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

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

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

7. Impoundments of jurisdictional waters. NA

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): NA

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

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):

X Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .

X Data sheets prepared/submitted by or on behalf of the applicant/consultant.

X Office concurs with data sheets/delineation report.

☐ Office does not concur with data sheets/delineation report.

- ☐ Data sheets prepared by the Corps: .
- ☐ Corps navigable waters' study: .
- ☐ U.S. Geological Survey Hydrologic Atlas: .
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☐ U.S. Geological Survey map(s). Cite scale & quad name: .
- ☐ 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 Geodectic Vertical Datum of 1929)
- X Photographs:
  - X Aerial (Name & Date): .
  - ☐ Other (Name & Date): .
- X Previous determination(s): Coyote Springs Investment, SPK-2007-0327
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: This is a large drainage basin that supports the Muddy River, which flows directly into Lake Mead/Colorado River. Historically, the Muddy River joined the Virgin River and then flowed into Lake Mead. With the creation of Lake Mead, the Muddy River is no longer a tributary of the Virgin River.

Acreage of Waters of the U.S Impacted					
Hydrographic Valley	**WOUS ID #**	**Length (feet)**	**Area of Impact (acres)**	**Lat**	**Long**
Las Vegas Wash	WOUS-6	885	0.061	-115.03	36.30
Las Vegas Wash	WOUS-9	204	0.012	-115.06	36.29
Las Vegas Wash	WOUS-10	206	0.012	-115.06	36.29
Las Vegas Wash	WOUS-59	230	0.016	-115.06	36.29
Las Vegas Wash	WOUS-60	219	0.015	-115.06	36.29
Las Vegas Wash	WOUS-61	221	0.013	-115.04	36.29
Las Vegas Wash	WOUS-62	200	0.011	-115.03	36.30
Las Vegas Wash	WOUS-63	636	0.044	-115.01	36.30
Las Vegas Wash	WOUS-64	238	0.011	-115.00	36.30
Las Vegas Wash	WOUS-65	577	0.033	-115.00	36.30
Las Vegas Wash	WOUS-66	222	0.061	-114.99	36.31
Las Vegas Wash	WOUS-67	369	0.068	-114.99	36.31

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): August 14, 2009

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, St. George Regulatory Office, SPK-2009-0594-SG

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **Nevada** County: **Lincoln** City: NA
Center coordinates of site (lat/long in degree decimal format): Lat. **37.24 E**, Long. **-115.00 N**.
Name of nearest water body: **Pahranagat Wash**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Colorado River/Lake Mead**
Name of watershed or Hydrologic Unit Code (HUC): Muddy River 15010012

X Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
X 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. Snake Creek JD, Coyote Springs JD, Las Vegas Wash JD
D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
Office (Desk) Determination. Date: August 17, 2009
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: 33 CFR Part 329, Declaration by Congress that the Osage is navigable in 1904, and 1931 LO Navigational Determination.

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
X 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: 16150 linear feet: width (ft) and/or approximately 1.106 acres.
Wetlands: acres.

c. Limits (boundaries) of jurisdiction based on: **Established by OHWM.**
Elevation of established OHWM (if known): feet

2. Non-regulated waters/wetlands (check if applicable):
Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs – Not applicable

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: 768 square miles
Drainage area: 491,520 acres
Average annual rainfall: 6.25 inches
Average annual snowfall: 1.4 inches

(ii) Physical Characteristics:
(a) Relationship with TNW:

☐ Tributary flows directly into TNW.
X Tributary flows through **2** tributaries before entering TNW.

Project waters are ~79.0 **miles** river miles from TNW.
Project waters are ~0-3 river miles from RPW.
Project waters are ~58.0 aerial (straight) miles from TNW.
Project waters are **~0-3** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: **Waters associated with the Pahranagat do not serve or cross state boundaries.**
Identify flow route to TNW: These drainages flow into Pahranagat Wash, which is a tributary of the Muddy River that flows directly into Lake Mead.
Tributary stream order, if known: 4th order

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

Tributary is:

X Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

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

Average width: 3.875 feet
Average depth: 0.125 feet
Average side slopes: **2:1**

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: These drainages probably experience some erosion. However, the system is relatively stable except in cases of flash flood events.

Presence of run/riffle/pool complexes. Explain: None present.
Tributary geometry: **meandering**
Tributary gradient (approximate average slope): 2%

(c) Flow:

Tributary provides for: **Ephemeral flow**
Estimate average number of flow events in review area/year: **2-5**
Describe flow regime: This is a relatively flashy system. Rain events are sporadic and very localized.
Other information on duration and volume:

Surface flow is: **ephemeral.** Characteristics: .
Subsurface flow: **unknown**. Explain findings: .
Dye (or other) test performed: N/A
Tributary has (check all that apply):
X Bed and banks
X OHWM (check all indicators that apply):

X clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	X the presence of wrack line
☐ vegetation matted down, bent, or absent	X sediment sorting

☐ leaf litter disturbed or washed away X scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):

☐ Discontinuous OHWM. Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply): Not applicable.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). When water is present, it is most likely sediment laden. Explain: None known. Headwater streams, development is limited to valleys along Pahranagat Wash

.Identify specific pollutants, if known: None Known.

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

☐ Riparian corridor. Characteristics (type, average width): Minimal vegetation present.
☐ Wetland fringe. Characteristics: None noted.

Habitat for:

X Federally Listed species. Explain findings: Possible habitat for Desert Tortoise.
☐ Fish/spawn areas. Explain findings: None present in ephemeral drainages.
☐ Other environmentally-sensitive species. Explain findings: Gila Monster.
☐ Aquatic/wildlife diversity. Explain findings: Limited.

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW
Not Applicable

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 food-webs?

• 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: .
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: .
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:

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: NA

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

3. Non-RPWs that flow directly or indirectly into TNWs.

X Water-body 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):

X Tributary waters: linear feet width (ft). 16150 feet

☐ Other non-wetland waters: acres.

Identify type(s) of waters: Ephemeral drainages.

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

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

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

7. Impoundments of jurisdictional waters. NA

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): NA

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

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):

X Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .

X Data sheets prepared/submitted by or on behalf of the applicant/consultant.
    X Office concurs with data sheets/delineation report.
    ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
    ☐ USGS NHD data.
    ☐ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name: .
☐ 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 Geodectic Vertical Datum of 1929)
X Photographs:
    X Aerial (Name & Date): .
    ☐ Other (Name & Date): .
X Previous determination(s): Coyote Springs Investment, SPK-2007-0327
☐ Applicable/supporting case law:
☐ Applicable/supporting scientific literature:
☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: Pahranagat Wash is a relatively large watershed that is a major tributary of the Muddy River. The ephemeral washes associated with this watershed have the potential to deliver sediment and pollutants to the Colorado River/Lake Mead. This area also provides some organic material to downstream areas.

Acreage of Waters of the U.S Impacted					
Hydrographic Valley	**WOUS ID #**	**Length (feet)**	**Area of Impact (acres)**	**Lat**	**Long**
Pahranagat	WOUS-1-1	495	0.034	-115.00	37.20
Pahranagat	WOUS-25, 27, 28	14247	1.012	-114.97	37.24
Pahranagat	WOUS-26	871	0.06	-114.97	37.24