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): July 16, 2010

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, Searchlight Wind Energy, SPK-2010-252

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Nevada County/parish/borough: Clark County City: Searchlight
Center coordinates of site (lat/long in degree decimal format): Lat. 35.439° **N**, Long. -114.853° **W**.
Universal Transverse Mercator:
Name of nearest waterbody: Lake Mohave/Colorado River
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Lake Mohave/Colorado River
Name of watershed or Hydrologic Unit Code (HUC): 15030101
☒ 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. El Dorado Valley and Piute Wash drainages or addressed under separate JDs.

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

☒ Office (Desk) Determination. Date: Junly 16, 2010
☒ Field Determination. Date(s): April 15, 2010

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: 117520 linear feet: width (ft) and/or acres.
      Wetlands: acres.

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

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs: NA

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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.

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 waterbody[4] 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: 1660472.11 **acres**
Drainage area: 13173.52 **acres**
Average annual rainfall: 7.72 inches
Average annual snowfall: 1.3 inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☒ Tributary flows through **2** tributaries before entering TNW.

Project waters are **5-10** river miles from TNW.
Project waters are **Pick List** river miles from RPW. No RPW's in project
Project waters are **5-10** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW. No RPW's in project
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: Unnamed drainages flow through several tributaries before reaching the Colorado River.
Tributary stream order, if known: 1.

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☒ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: 2-10 feet
Average depth: 1 feet
Average side slopes: **Vertical (1:1 or less).**

Primary tributary substrate composition (check all that apply):
☒ Silts ☒ Sands ☐ Concrete
☒ Cobbles ☒ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

[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 condition/stability [e.g., highly eroding, sloughing banks]. Explain: Tributaries are relatively stable.
Presence of run/riffle/pool complexes. Explain: None.
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): 2-5 %

(c) Flow:
Tributary provides for: **Ephemeral flow**
Estimate average number of flow events in review area/year: **2-5**
Describe flow regime: Flashy systems that flow only during storm events.
Other information on duration and volume: See attached tables for flow and precipitation data.

Surface flow is: **Discrete and confined.** Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (check all indicators that apply):
- ☒ clear, natural line impressed on the bank
- ☐ changes in the character of soil
- ☐ shelving
- ☐ vegetation matted down, bent, or absent
- ☐ leaf litter disturbed or washed away
- ☒ sediment deposition
- ☐ water staining
- ☐ other (list):
- ☐ the presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ the presence of wrack line
- ☒ sediment sorting
- ☒ scour
- ☐ multiple observed or predicted flow events
- ☐ abrupt change in plant community

☐ 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:
- ☐ oil or scum line along shore objects
- ☐ fine shell or debris deposits (foreshore)
- ☐ physical markings/characteristics
- ☐ tidal gauges
- ☐ other (list):

☐ Mean High Water Mark indicated by:
- ☐ survey to available datum;
- ☐ physical markings;
- ☐ vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: When water is present, it is likely sediment laden.
Identify specific pollutants, if known: Only natural sediment.

(iv) Biological Characteristics. Channel supports (check all that apply):
☐ Riparian corridor. Characteristics (type, average width): .
☐ Wetland fringe. Characteristics: .
☒ Habitat for:
- ☒ Federally Listed species. Explain findings: Potential habitat for desert tortoise.
- ☐ Fish/spawn areas. Explain findings: .
- ☐ Other environmentally-sensitive species. Explain findings: .
- ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW: None

(i) Physical Characteristics:
(a) General Wetland Characteristics:
Properties:
Wetland size: acres
Wetland type. Explain: .
Wetland quality. Explain: .
Project wetlands cross or serve as state boundaries. Explain: .

[6]A 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.
[7]Ibid.

(b) General Flow Relationship with Non-TNW:
Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**
Characteristics: .

Subsurface flow: **Pick List**. 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 **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List.**
Estimate approximate location of wetland as within the **Pick List** 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: .
Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width): .
☐ Vegetation type/percent cover. Explain: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: Overall functions are limited to sediment transport, flood attenuation, detritus movement.

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: Jurisdictional delineations of waters of the United States conducted in the Mojave Desert regularly involve measuring intermittent washes that have not had a substantive rain event in months or, more commonly, years. Thus, differentiating historic washes from active washes can be complex. Another complicating issue is differentiating between observations of signs in ephemeral and dry washes that resulting from ordinary storm events and evidence created in larger than ordinary storms events. As a result, a conservative approach is used to ensure that drainages that may flow toward, and connect with, a downstream TNW or RPW are delineated so waters of the United States are not underrepresented.

Dry wash data collected during this survey indicate that 16.84 acres of ephemeral washes drain the survey area. However, towards the end of the project survey there was an unusual opportunity to observe field conditions before and immediately after rain events. Between January 19-21, 2010, two rain events occurred depositing 2.05 inches of rain. The first rain event deposited 0.67 inches in two hours, the second an additional 1.1 inches within twenty four hours of the first rain event (Tables 1 and 2). Independently, both of these storm events are categorized as a two year rain events. The proximity of the two events increases their significance, as the ground was saturated at the start of the second event and the desert's ability to absorb water was diminished.

Field observations were made during and after these rain events. It was noted on January 21 (during a two year storm event) that despite the ground being thoroughly saturated (researchers would sink ankle deep in mud), very few of the washes in the survey area had flowing surface water. On February 2, new observations were made within the major washes that drain the survey area to determine if any surface flows occurred (Figure 6). Recorded field observations showed that few of the drainages contained any evidence of surface water having flowed during the back to back two year storm events (See Appendix, Waypoints 299-337). The few washes that possessed evidence of storm water showed evidence that the flows quickly dissipated when they reached into the flatter and sandier Piute Wash or other washes in the alluvial fan that drains towards Lake Mojave. The largest drainage with evidence of storm flows was approximately twelve feet wide and immediately upon connection with Piute Wash reduced to six feet and was further reduced and observed to be two feet wide upon reaching Cal Nev Ari.

These downstream observations indicate none of the storm flows from ephemeral washes within the project area would reach the nearby TNW (Lake Mojave) and thus have no hydrological connection under the conditions of an ordinary storm event. Further, the conditions that created the defined bed and bank of the ephemeral washes were not during an ordinary storm event, or are historic and no longer active draining channels in ordinary conditions.

In summary, direct observations following a series of two back to back 2-year storm events indicate that the project area does not appear to have a direct hydrological connection to a TNW or RPW under ordinary conditions..

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

3. **Non-RPWs[8] 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: **117520** 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: **.**
   - ☐ 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: 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 jurisidictional. 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.**

[8]See Footnote # 3.

☐ 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.

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: **See above. Observations during a two year storm event indicated that water was absorbed quickly and did not have the opportunity to move downstream and into the Colorado River. It would probably take an extreme event (25 year or greater) to have water actually flow into a TNW.**
☐ 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.

[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.*

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:Newfields. 2009..
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☒ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: .
- ☐ Corps navigable waters' study: .
- ☒ U.S. Geological Survey Hydrologic Atlas:Havasu-Mohave 15030101.
  - ☐ USGS NHD data.
  - ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: 24K Fourth of July Mountain.
- ☐ 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: .
- ☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

Jurisdictional delineations of waters of the United States conducted in the Mojave Desert regularly involve measuring intermittent washes that have not had a substantive rain event in months or, more commonly, years. Thus, differentiating historic washes from active washes can be complex. Another complicating issue is differentiating between observations of signs in ephemeral and dry washes that resulting from ordinary storm events and evidence created in larger than ordinary storms events. As a result, a conservative approach is used to ensure that drainages that may flow toward, and connect with, a downstream TNW or RPW are delineated so waters of the United States are not underrepresented.

Dry wash data collected during this survey indicate that 16.84 acres of ephemeral washes drain the survey area. However, towards the end of the project survey there was an unusual opportunity to observe field conditions before and immediately after rain events. Between January 19-21, 2010, two rain events occurred depositing 2.05 inches of rain. The first rain event deposited 0.67 inches in two hours, the second an additional 1.1 inches within twenty four hours of the first rain event (Tables 1 and 2). Independently, both of these storm events are categorized as a two year rain events. The proximity of the two events increases their significance, as the ground was saturated at the start of the second event and the desert's ability to absorb water was diminished.

Field observations were made during and after these rain events. It was noted on January 21 (during a two year storm event) that despite the ground being thoroughly saturated (researchers would sink ankle deep in mud), very few of the washes in the survey area had flowing surface water. On February 2, new observations were made within the major washes that drain the survey area to determine if any surface flows occurred (Figure 6). Recorded field observations showed that few of the drainages contained any evidence of surface water having flowed during the back to back two year storm events (See Appendix, Waypoints 299-337). The few washes that possessed evidence of storm water showed evidence that the flows quickly dissipated when they reached into the flatter and sandier Piute Wash or other washes in the alluvial fan that drains towards Lake Mojave. The largest drainage with evidence of storm flows was approximately twelve feet wide and immediately upon connection with Piute Wash reduced to six feet and was further reduced and observed to be two feet wide upon reaching Cal Nev Ari.

These downstream observations indicate none of the storm flows from ephemeral washes within the project area would reach the nearby TNW (Lake Mojave) and thus have no hydrological connection under the

conditions of an ordinary storm event. Further, the conditions that created the defined bed and bank of the ephemeral washes were not during an ordinary storm event, or are historic and no longer active draining channels in ordinary conditions.

In summary, direct observations following a series of two back to back 2-year storm events indicate that the project area does not appear to have a direct hydrological connection to a TNW or RPW under ordinary conditions.

DEPTH-DURATION-FREQUENCY VALUES FOR McCARRAN AIRPORT RAINFALL AREA

(IN INCHES)

	RECURRENCE INTERVAL					
TIME	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR
5 min.	0.15	0.27	0.35	0.46	0.54	0.63
10 min.	0.25	0.44	0.57	0.74	0.89	1.02
15 min.	0.33	0.57	0.74	0.97	1.15	1.32
30 min.	0.44	0.78	1.01	1.31	1.55	1.79
1 hour	0.52	0.89	1.15	1.50	1.78	2.06
2 hour	0.59	1.01	1.30	1.70	2.01	2.30
3 hour	0.64	1.08	1.39	1.82	2.15	2.48
6 hour	0.72	1.22	1.58	2.05	2.41	2.77
24 hour (TR-55)	1.20	1.60	1.80	2.40	2.70	2.96

NOTE: 1. Refer to Figure 513 for a description and drawing of the area included in the McCarran Airport Rainfall Area.

2. The 24 hour values presented above are for use with TR-55 only.

3. Table 501 adjustments not required.

Revision	Date

WRC ENGINEERING

REFERENCE: USACE, Los Angeles District, 1988

TABLE 505

Table of Waters associated with the Colorado River/Lake Mohave Watershed:

Regulatory Action Type	Size	Cowardin	HGM	Local Waterway
SPK-2010-00252(4) (NRPW)	200 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(5) (NRPW)	200 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(6) (NRPW)	200 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(7) (NRPW)	200 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(8) (NRPW)	2200 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(9) (NRPW)	1469 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(10) (NRPW)	200 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(11) (NRPW)	3270 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(12) (NRPW)	200 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(13) (NRPW)	200 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(14) (NRPW)	3893 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(15) (NRPW)	200 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(16) (NRPW)	1404 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(17) (NRPW)	1476 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(18) (NRPW)	200 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(19) (NRPW)	5648 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(20) (NRPW)	8025.6 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(21) (NRPW)	950.4 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(22) (NRPW)	10560 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(23) (NRPW)	2534.4 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(24) (NRPW)	1953.6 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(25) (NRPW)	3326.4 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(26) (NRPW)	6336 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(27) (NRPW)	6705.6 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(28) (NRPW)	4593.6 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(29) (NRPW)	792 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(31) (NRPW)	2164.8 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(33) (NRPW)	1689.6 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(34) (NRPW)	1320 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado
SPK-2010-00252(35) (NRPW)	2376 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(36) (NRPW)	1953.6 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(37) (NRPW)	2640 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(38) (NRPW)	2006.4 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(39) (NRPW)	2692.8 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(40) (NRPW)	3960 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(42) (NRPW)	2692.8 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(43) (NRPW)	2481.6 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(41) (NRPW)	1320 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(44) (NRPW)	1320 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(45) (NRPW)	2587.2 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(46) (NRPW)	3273.6 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(47) (NRPW)	2217.6 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River

SPK-2010-00252(48) (NRPW)	1742.4 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(50) (NRPW)	2534.4 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(51) (NRPW)	2376 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(49) (NRPW)	1636.8 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(52) (NRPW)	528 ft	R4SB2	RIVERINE	Unnamed Tributary of Colorado River
SPK-2010-00252(53) (NRPW)	633.6 ft	R4SB2	RIVERINE	Unnamed Tributary of the Colorado River
SPK-2010-00252(54) (NRPW)	2270.4 ft	R4SB2	RIVERINE	Unnamed Tributary of the Colorado River
SPK-2010-00252(55) (NRPW)	2164.8 ft	R4SB2	RIVERINE	Unnamed Tributary of the Colorado River

Rain Recorded at Searchlight Precipitation Station 5124

Date/Time	Total Rain	Time Since Last Reading	New Rainfall
1/22/2010 23:57	3.23	12:00	0
1/22/2010 11:57	3.23	12:00	0.04
1/21/2010 23:57	3.19	5:32	0
1/21/2010 18:25	3.19	1:22	0.04
1/21/2010 17:03	3.15	2:21	0.12
1/21/2010 14:42	3.03	0:26	0.04
1/21/2010 14:16	2.99	0:34	0.08
1/21/2010 13:42	2.91	0:31	0.08
1/21/2010 13:11	2.83	0:18	0.03
1/21/2010 12:53	2.8	0:56	0.08
1/21/2010 11:57	2.72	3:47	0.2
1/21/2010 8:10	2.52	2:18	0.04
1/21/2010 5:52	2.48	7:50	0.08
1/20/2010 22:02	2.4	0:22	0.04
1/20/2010 21:40	2.36	1:31	0.16
1/20/2010 20:09	2.2	0:32	0.03
1/20/2010 19:37	2.17	1:19	0.08
1/20/2010 18:18	2.09	0:47	0.04
SubTotal		23:32	1.1
1/20/2010 17:31	2.05	5:35	0.04
1/20/2010 11:56	2.01	12:00	0
1/19/2010 23:56	2.01	0:17	0
1/19/2010 23:39	2.01	5:44	0.04
SubTotal		23:36	0.08
1/19/2010 17:55	1.97	0:07	0.04
1/19/2010 17:48	1.93	0:09	0.04
1/19/2010 17:39	1.89	0:06	0.04
1/19/2010 17:33	1.85	0:11	0.04
1/19/2010 17:22	1.81	0:11	0.04
1/19/2010 17:11	1.77	0:09	0.04
1/19/2010 17:02	1.73	0:18	0.12
1/19/2010 16:44	1.61	0:20	0.11
1/19/2010 16:24	1.5	0:07	0.04
1/19/2010 16:17	1.46	0:07	0.04
1/19/2010 16:10	1.42	0:08	0.04
1/19/2010 16:02	1.38	0:14	0.04
1/19/2010 15:48	1.34	0:08	0.04
SubTotal		2:15	0.67
1/19/2010 15:40	1.3	1:19	0.04
1/19/2010 14:21	1.26	2:25	0.04
1/19/2010 11:56	1.22	1:26	0
1/19/2010 10:30	1.22	10:34	0.04
1/18/2010 23:56	1.18	4:45	0
1/18/2010 19:11	1.18	0:39	0.08
1/18/2010 18:32	1.1	0:42	0.04
1/18/2010 17:50	1.06	5:54	0.04
1/18/2010 11:56	1.02	4:39	0
1/18/2010 7:17	1.02	7:21	0.08
1/17/2010 23:56	0.94		