

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): March 28, 2012

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, St. George Municipal Airport, SPK-1998-50589, Wash 3, 4, FL-1, FL-2, FL-4a, FL-4b, and FL-5.

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Utah** County/parish/borough: **Washington** City: **St. George**
Center coordinates of site (lat/long in degree decimal format): Lat. **37.016°**, Long. **-113.498°**
Universal Transverse Mercator: **12**

Name of nearest waterbody: **Fort Pearce Wash**

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

Name of watershed or Hydrologic Unit Code (HUC): **Fort Pearce Wash - Arizona and Utah, HUC 15010009. Upper Virgin River - Utah, HUC-15010008.**

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form:

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

Office (Desk) Determination. Date: **March 28, 2012**

Field Determination. Date(s): **August 20, 2010; January 31, 2011**

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 no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

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

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

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

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

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

Non-wetland waters: linear feet, wide, and/or acres.

Wetlands: acres.

c. Limits (boundaries) of jurisdiction based on: **Pick List**

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: **Wash 3, 4, FL-1, FL-2, FL-4a, FL-4b, and FL-5 are non-jurisdictional because they are intrastate, non-**

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.

navigable waters with no significant nexus to the perennial Virgin River (an interstate [33 C.F.R. section 328.3(a)(2)] RPW and Navigable-in-Fact TNW at the confluence of Fort Pearce Wash).

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

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

1. **TNW**

Identify TNW:

Summarize rationale supporting determination:

2. **Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”:

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

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

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

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

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

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

(i) **General Area Conditions:**

Watershed size: 1349 square miles

Drainage area: 0.002 square miles

Average annual rainfall: 8.25 inches

Average annual snowfall: 3.2 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 2-5 river miles from RPW.

Project waters are 5-10 aerial (straight) miles from TNW.

Project waters are 2-5 aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

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

Identify flow route to TNW⁵: **Wash FL-1 (an ephemeral non-RPW) begins about 0.2 miles upstream of the project area, and flows for about 0.4 miles to Dry Canyon Wash (an ephemeral non-RPW) which flows about 0.1 mile before entering an ephemeral reach of Fort Pearce Wash (an interstate [33 C.F.R. section 328.3(a)(2)] seasonal RPW), which flows about 8.2 miles to the Virgin River (an interstate [33 C.F.R. section 328.3(a)(2)]RPW and Navigable-In-Fact TNW at the confluence of Fort Pearce Wash).**

Wash 3, 4, FL-2, FL-4a, FL-4b, and FL-5 are ephemeral non-RPWs. Wash 3 starts upstream and flows into Stormwater Detention Basin 2. FL-2 starts at the downstream face of Stormwater Detention Basin 2 since all upstream Wash 3 flows are essentially retained behind the dam and do not outflow during normal circumstances. Downstream Wash 4 is tributary to FL-2, FL-4a is tributary to FL-4b, which flows to FL-2. FL-5, adjacent to FL-4b, flows to FL-2. From the FL-4b and FL-5 confluences, FL-2 flows about 0.4 miles before entering an ephemeral flowing reach of Fort Pearce Wash (an interstate [33 C.F.R. section 328.3(a)(2)] seasonal RPW), which flows about 6.6 miles to the Virgin River (an interstate [33 C.F.R. section 328.3(a)(2)]RPW and Navigable-In-Fact TNW at the confluence of Fort Pearce Wash).

Tributary stream order, if known: **1st order stream.**

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

Tributary is: Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain: **Wash 3 was partially filled and re-aligned during Airport construction. Wash 4 was partially filled to construct the Airport runway. FL-1 has been altered by the Airport Parkway road crossing. FL-2, immediately downstream of Stormwater Detention Basin 2, has been altered by about 350 linear feet of rock rip rap fill material. About 1200 feet downstream of Stormwater Detention Basin 2, FL-2 has been altered by the westerly airport perimeter road and culvert. West of this airport perimeter road, FL-2, and all of FL-4a, FL-4b, and FL-5, are natural. Section 404 of the Clean Water Act authorization was not obtained prior to discharging Wash 3, 4, FL-1, and FL-2 fill materials.**

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

Average width: **2 to 5** feet
Average depth: **0.04 to 0.5** feet
Average side slopes: **2:1.**

Primary tributary substrate composition (check all that apply):

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

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **Unstable, eroding, sloughing banks due to naturally highly erodible soils.**

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Meandering**

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: **Flows are generated by winter rainfall and localized intense storm events (monsoons) in late summer and early fall.**

Other information on duration and volume: **Calculated 2-yr, 24-hr peak flow for Drainage Basin "S" (Wash 3, 4, FL-2, FL-4a, FL-4b, FL-5) = 8.248 cfs.**

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

Subsurface flow: **No.** Explain findings: **No physical evidence reported.**

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks

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.

- OHWM⁶ (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): **Mudcracks, ripples, benches**
 - 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: **Wash 3 exhibits OHWM immediately upstream of Stormwater Detention**

Basin 2. Wash 4 exhibits OHWM immediately upstream of its confluence with Wash FL-2. Wash FL-1 and FL-2 exhibit OHWM upstream and downstream of undisturbed (man-altered) project areas.

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: **Streambank erosion is a source of sediment, inorganic material, TDS, and natural organic material (organic carbon) for the Fort Pearce Wash, Upper and Lower Virgin River Watersheds.**

Identify specific pollutants, if known:

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

- Riparian corridor. Characteristics (type, average width): **no riparian corrido exists at the site, however, wash waters contain sediment, inorganic material, TDS, and carbon that helps support downstream Fort Pearce Wash riparian vegetation (i.e., willows, cottonwoods, etc).**
- Wetland fringe. Characteristics:
- Habitat for:
 - Federally Listed species. Explain findings: **No federally listed species are located at the site, however, wash waters transport organic material to the Virgin River where they provide a food source for the Federally endangered Virgin River chub (*Gila robusta seminuda*) and Woundfin (*Plagopterus argentissimus*), opportunistic feeders that consume insects, insect larvae, other invertebrates, algae, and debris. Wash waters transport sediment, nutrients, total dissolved solids, and organic material to the Virgin River where they support critical riparian habitat for the Federally endangered Southwestern Willow Flycatcher (*Empidonax traillii extimus*) and provide shade to reduce water temperature for endangered fishes.**
 - Fish/spawn areas. Explain findings: **The Virgin River contains little aquatic vegetation and produces a minimal amount of organic matter; therefore, the Virgin River fauna are heavily dependent on tributaries and floodplains that provide or support much of the food base. This rich, terrestrial food source enhances fish growth, fecundity, and/or survival. In many small freshwater fish, including the federally listed species, spawning is associated with seasonal rains and flooding of rivers. Flood-related changes in the river environment induce spawning, while the loss of food base, riparian habitat, and increased water temperature may be contributing factors limiting recruitment for these fish.**
 - Other environmentally-sensitive species. Explain findings: **State of Utah Conservation Species: Virgin spinedace (*Lepidomeda mollispinis mollispinis*) and Flannelmouth sucker (*Catostomus latipinnis*) are Virgin River fish managed in accordance with Conservation Agreements. State of Utah wildlife species of concern: Desert sucker (*Catostomus clarkii*) are considered a sensitive species in Utah, where they are only found in the Virgin River and its tributaries. Speckled dace (*Rhinichthys osculus*) is found in large numbers throughout the Virgin River and its tributaries.**
 - Aquatic/wildlife diversity. Explain findings:

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

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain:

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

⁷Ibid.

Wetland quality. Explain:
Project wetlands cross or serve as state boundaries. Explain:

(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:

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: **Wash 3 flows into Stormwater Detention Basin 2 where waters are retained and do not outflow during normal circumstances. Wash 4, FL-1, FL-2, FL-4a, FL-4b, and FL-5 are about 8 to 10 miles upstream of the Virgin River and, with respect to "4", "4a", "4b", and "5", physically connected by Wash FL-2 (an intrastate [33 C.F.R. section 328.3 (a)(2)] ephemeral non-RPW) and an ephemeral flowing reach of Fort Pearce Wash (an interstate [33 C.F.R. section 328.3(a)(2)] seasonal RPW), and with respect to "1", physically connected by Dry Canyon Wash (an intrastate [33 C.F.R. section 328.3 (a)(2)] ephemeral non-RPW) and an ephemeral flowing reach of Fort Pearce Wash (an interstate [33 C.F.R. section 328.3(a)(2)] seasonal RPW). On September 7, 2011, the Corps determined Dry Canyon Wash flows insignificant (SPK-2000-50443). Since Wash FL-1 is upstream and physically connected to Dry Canyon Wash, FL-1 flows are insignificant.**

The Wash 3, 4, FL-2, FL-4a, FL-4b, and FL-5 drainage area is about 0.002 square miles (0.0002% of the Fort Pearce Watershed). Wash 3, 4, FL-2, FL-4a, FL-4b, and FL-5 flows are generated by winter rainfall and localized intense storms (monsoons) in late summer and early fall. During these infrequent precipitation events, waters erode wash banks and transport sediment, nutrients, inorganic and organic material, TDS, and carbon downstream to the ephemeral reach of Fort Pearce Wash. Depending on the flow volume, physical, and biological processes, waters continue for about 4 miles to the seasonal reach of Fort Pearce Wash, in the vicinity of River Road, which flows about 2.6 miles to the Virgin River. According to the January 2012 Hydrology Study, a 2-year 24-hour storm event would generate 8.25 cfs of flow, from the Wash 3, 4, FL-2, FL-4a, FL-4b, and FL-5 drainage area, to Fort Pearce Wash. This flow volume is consistent with the 10.6 cfs found in the Dry Canyon Wash drainage area, which is similar in nature and size. While Wash 3, 4, FL-2, FL-4a, FL-4b, and FL-5 waters can transport sediment, inorganic and organic material, TDS, and carbon downstream to Fort Pearce Wash and the Virgin River, based on the small drainage area and volume, duration, and infrequency of flow, the contribution of Wash 3, 4, FL-2, FL-4a, FL-4b, and FL-5 waters and effects on the physical, biological, and chemical functions of the perennial Virgin River (an interstate [33 C.F.R. section 328.3 (a)(2)]RPW and Navigable-in-Fact TNW), are imperceptible and do not have a significant nexus with the Virgin River.

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, wide, 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 wide.
 Other non-wetland waters: acres.
Identify type(s) of waters:

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

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

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

- Tributary waters: linear feet, wide.
- 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 jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

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

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

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

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, wide.
- Other non-wetland waters: acres.

Identify type(s) of waters:

- Wetlands: acres.

⁸See Footnote # 3.

⁹To 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.

On February 1, 2005, prior to the SWANNC and Rapanos Supreme Court Decisions and Airport construction, the Corps determined Ephemeral Wash Numbers 3 through 10 jurisdictional waters of the United States based on their hydrologic connection to Fort Pearce Wash and the Virgin River, an interstate water (SPK-1998-50589). Airport construction activities began in September 2008 and were completed in November 2010. During construction, fill material was discharged to Wash 3, 4, and 10, without Section 404 of the Clean Water Act authorization. On September 7, 2011, the Corps determined Dry Canyon Wash, downstream of Wash 10, non-jurisdictional because it is an intrastate, non-navigable water with no significant nexus to the Virgin River (SPK-2000-50443). On January 17, 2012, to resolve the potential unauthorized activities at Wash 3, 4, and 10, the City of St George delineated and re-named five post-Airport construction ephemeral washes and requested the Corps re-evaluate jurisdiction.

Wash 3, 4, FL-1, FL-2, FL-4a, FL-4b and FL-5, located in the northwesterly Fort Pearce Wash watershed (HUC 15010009), are identified in the January 2012 Delineation Report as follows:

Waters	Length (linear feet)	Width (feet)	Acreage
Historic Wash 3 (impacted), (non-impacted = 700 LF)	1,861	6	0.043
Historic Wash 4 (impacted),(non-impacted = 58 LF)	1,211	2	0.028
Wash FL-1 (formerly Wash 10)	515	2.1	0.03
Wash FL-2 (historic Wash 3 below detention basin)	4,880	5.3	0.71
Wash FL-4a (former Wash 5)	396	1.8	0.013
Wash FL-4b (formerly Wash 5)	497	1.8	0.017
Wash FL-5 (formerly Wash 6)	545	1.9	0.03

Physical Function (Hydrology):

The Virgin River, which is a perennial, interstate Navigable-in-Fact waterway is the downstream TNW for Washes FL-1, FL-2, FL-4a, FL-4b, and FL-5. Lower Virgin-Colorado-Lake Mead Watershed-HUC 1501, originates in Kane County, Utah, and flows through Arizona into Lake Mead, Nevada. The Santa Clara/Virgin River confluence forms the 8-digit HUC boundary between the Upper Virgin River Watershed, Utah- HUC 15010008 and Lower Virgin River Watershed, Utah, Arizona, Nevada-HUC 15010010.

The Virgin River, from stateline to the Santa Clara confluence and upstream to Quail Creek diversion (lower part of HUC 15010008), is listed as a 303(d) impaired water for Class 3B, warm water fish and aquatic life, and Class 4, agricultural uses. The specific pollutants are total dissolved solids (TDS), boron, and temperature. A Total Maximum Daily Load (TMDL) study has been approved and site-specific water quality standard adopted for TDS. Critical riparian Virgin River habitat supports the Federally endangered Southwestern Willow Flycatcher (*Empidonax traillii extimus*) and provides shade to maintain water temperature for several fish including; two Federally-listed endangered species, Virgin River chub (*Gila robusta seminuda*) and Woundfin (*Plagopterus argentissimus*); two state conservation species, Virgin spinedace (*Lepidomeda mollispinis mollispinis*) and Flannelmouth sucker (*Catostomus latipinnis*); one state species of concern, Desert sucker (*Catostomus clarkii*); and Speckled dace (*Rhinichthys osculus*).

Precipitation in St George, Utah, mainly falls as rain, but snowfall is possible. The average annual total precipitation is 8.25 inches, evenly spread throughout the year. The average seasonal precipitation is; Winter 2.86 inches, Spring 1.85 inches, Summer 1.62 inches, and Fall 1.93 inches. The average total snowfall is 3.2 inches; Winter 2.8 inches, Spring and Fall 0.2 inches, respectively. Ephemeral Wash FL-1, FL-2, FL-4a, FL-4b, and FL-5 flows are generated by winter rainfall and localized intense storm events (monsoons) in late summer and early fall.

Wash FL-1 flows in a south-easterly direction and crosses under the new Airport Parkway through a 36" culvert that was placed to accommodate the new roadway. Downstream of the road crossing, the channel returns to a natural wash which flows to Dry Canyon Wash, tributary to Fort Pearce Wash, and the Virgin River. On September 7, 2011, the Corps determined Dry Canyon Wash non-jurisdictional because it is an intrastate, non-navigable water with no significant nexus to the Virgin River (SPK-2000-50443).

Washes 3, 4, FL-4a, FL-4b and FL-5 are small tributaries to FL-2. Wash 3 is upstream of Stormwater Detention Basin 2 (UT Dam Safety ID No. UT53532). Washes FL-4a, FL-4b, and FL-5 begin north of the St George Municipal Airport's property and flow in a southerly direction. FL-4a flows into FL-4b. FL-5 is adjacent to FL-4b. The Delineation Report indicates that, although evidence of historic flow is visible in FL-4a, FL-4b, and FL-5, it appears to have been some time since water has been present in these washes. Wash FL-2, the main wash in the study area, starts at the downstream face of the airport's Detention Basin 2, since all upstream Wash 3 flows are essentially retained in a 42-acre foot reservoir behind the dam and do not outflow during normal circumstances. From the dam face, FL-2 flows approximately 800 feet to the Wash 4 confluence, where flows merge and continue for another 800 feet to the FL-4b confluence, where flows merge continue for another 500 feet to the FL-5 confluence, where flows merge and continue about 2,700 feet to an ephemeral reach of Fort Pearce Wash. After entering the ephemeral reach of Fort Pearce Wash, FL-2 waters flow about 4 miles, prior to combining with the seasonal reach of Fort Pearce Wash in the vicinity of River Road, which flows about 2.6 miles to the Virgin River. According to the Delineation Report, the FL-2 watershed is about 1,290 acres (0.002 square miles) (0.0002% of the Fort Pearce Wash watershed).

According to the January 2012 Hydrology Study, a 2-year 24-hour storm event would generate 1.04 inches of precipitation and 8.25 cfs of peak flow from Drainage Basin "S" (Wash 3, 4, FL-2, FL-4a, FL-4b, and FL-5) into Fort Pearce Wash. This flow volume is consistent with the 10.6 cfs found in Dry Canyon Wash, which is similar in nature and size.

Chemical Function (Soils and Water Quality):

According to the delineation report, one or more of the following soil types are found in the study area: Badland, very steep (BB), Eroded land-Shalet complex (EB), Fluvaquents and torrifluvents, sandy (FA), Hobog-Rock land association (HG), Laverkin fine sandy loam, 2 to 5 percent slopes (LcC), Nikkey sandy loam, 3 to 15 percent slopes (NLE), Pintura loamy fine sand, hummocky, 1 to 10 percent slopes (PoD), St George silt loam (Sa), and Vekol fine sandy loam, 0 to 2 percent slopes (VeA). Wash FL-2 soils are predominately EB and NLE. The Nikey (NLE) series consists of very deep, well drained, moderately permeable soils that formed in alluvium from limestone (calcium carbonate), sandstone, and shale. Some pedons may contain gypsum (calcium sulfate dihydrate) crystals.

TDS is a measure of the combined content of all inorganic and organic substances in a liquid that can pass through a two micron filter. Potential FL-2 sources of TDS include dissolved inorganic ions (Calcium, Carbonate, Sulfate, etc) from the unstable, highly erodable soils and organic substances from vegetation (nitrate, carbon, etc). During precipitation events, Wash FL-2, 4, FL-4a, FL-4b, and FL-5 waters erode stream banks and transport sediment, inorganic and organic material, TDS, and carbon downstream to Fort Pearce Wash and the Virgin River.

Biological Function:

Seasonally flooded habitats contribute to the biological productivity of the Virgin River system by producing allochthonous (humus, silt, organic detritus, colloidal matter, and plants and animals produced outside the river and brought into the river) organic matter which provides nutrients and terrestrial food sources to aquatic organisms (Hesse and Sheets 1993). The Virgin River contains little aquatic vegetation and a minimum amount of autochthonous (produced within the river) organic matter. Thus, the fauna of the Virgin River is heavily dependent on allochthonous energy inputs from the floodplain that provides or supports much of the food base. This rich, terrestrial food source may enhance fish growth, fecundity, and/or survival. The endangered Virgin River chub (*Gila robusta seminuda*) and Woundfin (*Plagopterus argentissimus*), are opportunistic feeders that consume insects, insect larvae, other invertebrates, algae, and debris. Wash FL-2, 4, FL-4a, FL-4b, and FL-5 waters transport nutrients, total dissolved solids, and organic material to the Virgin River where it provides a food source for endangered and other Virgin River fish species. In addition, Wash FL-2, 4, FL-4a, FL-4b, and FL-5 waters transport sediment, nutrients, inorganic and organic material, and carbon to the Virgin River where they support riparian habitat that provides shade to reduce the water temperature for fish survival and nesting sites for the endangered Southwestern Willow Flycatcher (*Empidonax traillii extimus*).

Summary:

Wash 3, 4, FL-1, FL-2, FL-4a, FL-4b, and FL-5 waters flow ephemerally in response to winter rainfall and intense summer storm events.

When flow occurs, Wash FL-1 waters transport sediment, nutrients, inorganic and organic material, TDS, and carbon downstream to Dry Canyon Wash (also known as Wash G, UDOT Southern Parkway Segment 2 in SPK-2000-50443) where waters enter an ephemeral reach of Fort Pearce Wash. On September 7, 2011, the Corps determined Dry Canyon Wash non-jurisdictional because of lack of significant nexus to the Virgin River. Therefore, the Corps has determined that Wash FL-1 is non-jurisdictional because it is an intrastate, non-navigable water, upstream and connected to Dry Canyon Wash.

Wash 3 flows into Stormwater Detention Basin 2 where waters are retained and do not outflow during normal circumstances.

Wash 4, FL-4a, FL-4b, and FL-5 waters transport sediment, nutrients, inorganic and organic material, TDS, and carbon downstream where they combine with Wash FL-2 water, sediment, nutrients, inorganic and organic material, TDS, and carbon prior to entering the ephemeral reach of Fort Pearce Wash. Depending on the upstream flow volume, physical, and biological process, Fort Pearce Wash (an interstate [33 C.F.R. section 328.3 (a)(2)] ephemeral non-RPW) flows for approximately 4 miles before combining with the seasonally flowing reach of Fort Pearce Wash (an interstate [33 C.F.R. section 328.3(a)(2)] seasonal RPW) and continuing downstream for 2.6 miles to the perennial Virgin River (an interstate [33 C.F.R. section 328.3(a)(2)] RPW and Navigable-in-Fact TNW).

Although Wash FL-2, 4, FL-4a, FL-4b, and FL-5 waters transport sediment, nutrients, inorganic and organic material, TDS, and carbon downstream to Fort Pearce Wash and the Virgin River, based on the volume, duration, and infrequency of flow, the effects of these waters on the physical, biological, and chemical functions of the Virgin River are insignificant.

Therefore, the Corps has determined that Wash 3, 4, FL-2, FL-4a, FL-4b, and FL-5 are non-jurisdictional because they are intrastate, non-navigable waters with no significant nexus to the Virgin River (an interstate [33 C.F.R. section 328.3(a)(2)] RPW and navigable-in-fact TNW)