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 18, 2014

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Albuquerque District, Four Hills Estates Subdivision, Bernalillo County, SPA-2012-00299-ABQ

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: New Mexico County/parish/borough: Bernalillo City: Albuquerque
Center coordinates of site (lat/long in degree decimal format): Lat. 35.0457381509705°, Long. -106.522364601568°
Universal Transverse Mercator: 13 361153.45 3879174.64
Name of nearest waterbody: Tijeras Arroyo
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Rio Grande
Name of watershed or Hydrologic Unit Code (HUC): Rio Grande-Albuquerque New Mexico., 13020203

- [x] 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):

- [x] Office (Desk) Determination. Date: February 12, 2014
- [x] Field Determination. Date(s): February 12, 2014

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: *Click here to enter text.*

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
- [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:
Tijeras Arroyo: 1,800 linear feet: 70 width (ft) and/or 2.89 acres.
Compound tributary to Tijeras Arroyo: 2,350 linear feet: 32 width (ft) and/or 1.73 acres.
Wetlands: N/A.

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

Elevation of established OHWM (if known): location of WofUS/OHWM on attached map

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: *Click here to enter text.*

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

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

1. TNW

Identify TNW: *Click here to enter text.*

Summarize rationale supporting determination: *Click here to enter text.*

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": *Click here to enter text.*

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:

Compound Tributary- 1,140 acres
Tijeras Arroyo- 18,839 acres

Drainage area: *# Choose an item.*

Average annual rainfall: 9.45 inches
Average annual snowfall: 10 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☑ Tributary flows directly into TNW. Tijeras Arroyo flows directly into the Rio Grande

☑ Tributary flows through1 tributary before entering TNW. Compund Tributary flows into the Tijeras Arroyo which then enters the Rio Grande (TNW).

Project waters are 10-15 river miles from TNW.
Project waters are *Choose an item.* river miles from RPW.
Project waters are 5-10 aerial (straight) miles from TNW.
Project waters are *Choose an item.* aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: *Click here to enter text.*

Identify flow route to TNW[5]: Compund Tributary flows into the Tijeras Arroyo. Tijeras Arroyo flows directly into the Rio Grande approximately 10 miles down stream.
Tributary stream order, if known: Compound tributary is 1st order stream that flows into a 2nd order stream (Tijeras Arroyo), which flows directly into a 3rd order stream (Rio Grande).

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

Tributary is:

☑ Natural- Tijeras Arroyo and the compound tributary that runs through the proposed Four Hills development site are considered natural. However, the compund tributary also has manipulated characterstics as discussed below. Both tributaries are open, ephemeral channels that flow during precipitation events. Functions in these tributaries include: movement of water, nutrients, and sediment throughout the watershed; energy dissipation during high-water flows to reduce erosion and

[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.

improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering.

☐ Artificial (man-made). Explain: *Click here to enter text.*

☑ Manipulated (man-altered). Explain: The compound tributary is fed by a culvert and road erosion from an upstream housing development. Portions of the original wash no longer exist because of this. The Tijeras Arroyo has some head cutting along some side channels, and some areas upstream have older hard stabilization. There are probably other anthropogenic effects to the arroyo upstream from the project area.

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

Tijeras Arroyo

Average width: The width varies largely because of interspersed areas of active floodplain islands, multiple low-flow channels, and low terraces. The channels bordering the project areas average 32 feet wide.
Average depth: 1-2 feet
Average side slopes: The banks bordering the project area are almost 90° vertical. Vertical (1:1 or less)

Compound Tributary

Average width: The average width, based on 20 random points that include active floodplain where channels converge, is 32 feet, but the range for channels alone is between approximately 2 and 50 feet. Some of the active floodplain areas that receive flow, based on drift deposits and flow patterns in the sand, are around 100 feet wide.
Average depth: The compound tributary has one main channel that is incised in the upper and lower half but not the middle section. Most of the compound channels are not incised, although a few sections have a foot or so of incision. The OHWM along most of the channels is below 1 foot but maybe several feet in portions of the upper main channel before it branches out into multiple channels.
Average side slopes: *Choose an item.*

Primary tributary substrate composition (check all that apply):

☐ Silts	☑ Sands	☐ Concrete
☑ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover: *Click here to enter text.*	

☑ Other. Explain: The substrate is predominately sand and loam with scattered cobble. The soils are mapped as Bluepoint–Kokan association, hilly (BkD), a loamy fine sand formed in sandy alluvial and Eolian sediments on alluvial fans and terraces; and Gila fine sandy loam (GA) formed in recent alluvium on the floodplain of the Rio Grande found at the mouth of the Tijeras Canyon.

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: The banks of the Tijeras Arroyo in the project area are subject to eroding because they are on the outside of bends. The upper and lower banks of the main compound tributary are eroding vertically, probably due to the poorly designed culvert that feeds the channel.

Presence of run/riffle/pool complexes. NONE
Tributary geometry: Meandering
Tributary gradient (approximate average slope): For the Tijeras Arroyo, the gradient is around 2°. For the compound tributary, the average gradient is 2–3°. %

(c) Flow:

Tributary provides for: Flows during precipitation events
Estimate average number of flow events in review area/year: 2-5
Describe flow regime: Ephemeral
Other information on duration and volume: There are no data for cfs flow because the water bodies are ephemeral. Flow levels are tied closely to local rainfall events. Flows only occur during localized precipitation events. Precipitation in the Sandia Mountains can cause flow in the Tijeras Arroyo. These events typically occur during the monsoon season, snow melts, and spring rains.

Surface flow is:

Tijeras Arroyo: Confined

Compound Tributary: Flow in the compound tributary occurs mainly in channels in the upper portion of the wash. The middle portions have some active floodplain where channels converge. Only two channels reach the Tijeras Arroyo. The other channels disappear onto wide, flat ground that probably receives sheet flow with isolated areas subject to ponding in low spots.

Subsurface flow: No- Explain findings: both waterways are ephemeral channels
☐ Dye (or other) test performed: N/A

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): *Click here to enter text.*
- ☑ 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 *Click here to enter text.*

☑ Discontinuous OHWM.[7] Explain: The OHWM for Tijeras Arroyo is continuous. The OHWM in the compound tributary channels can be discontinuous in some places based on the path that water takes during a particular storm event, and blowing sand deposits that can obscure the OHWM between rainfall events. The compound tributaries flow through a wide expanse of fairly flat ground and the OHWMs for all but two of the channels are obscured before they reach the Tijeras Arroyo. It appears that water flows down numerous braided channels, and except for a few distinct channels, spreads out onto a wide, flat area with overland sheet flow. The water appears to then enter several channels at the lower end of the wide, flat area via head cuts that feed into the Tijeras Arroyo. See the delineated areas on the map in the delineation report.

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): *Click here to enter text.*

☐ 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: Tijeras Arroyo is on the 303(d) List of Impaired Surface Waters. Probable sources of impairment include channelization, discharges from municipal separate storm sewer systems (MS4), drought-related impacts, on-site treatment systems (septic systems and similar decentralized systems), rangeland grazing, and wastes from pets.
Identify specific pollutants, if known: *Click here to enter text.*

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

☑ Riparian corridor. Characteristics (type, average width): There is no true riparian vegetation. Portions of the borders of washes and surrounding lowlands contain rubber rabbitbrush (*Ericameria nauseosa*) and fourwing saltbush (*Atriplex canescens*), which do not occur in the uplands.

☐ Wetland fringe. Characteristics: *Click here to enter text.*

☐ Habitat for:

- ☐ Federally Listed species. Explain findings: *Click here to enter text.*
- ☐ Fish/spawn areas. Explain findings: *Click here to enter text.*
- ☑ Other environmentally-sensitive species. Explain findings: There is potential Western Burrowing Owl (*Athene cunicularia hypugaea*) habitat, but no sign of owls were detected during Burrowing Owl-specific surveys in 2012. There are some owls on nearby Kirtland Air Force Base.
- ☑ Aquatic/wildlife diversity. Explain findings: Scaled Quail (*Callipepla squamata*), Mourning Dove (*Zenaida macroura*), Say's Phoebe (*Sayornis saya*), Western Kingbird (*Tyrannus verticalis*), Rock Wren (*Salpinctes obsoletus*), Northern Mockingbird (*Mimus polyglottos*), Crissal Thrasher (*Toxostoma crissale*), House Finch (*Carpodacus mexicanus*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), and New Mexico whiptail (*Cnemidophorus neomexicanus*). Vertical arroyo walls contain numerous small-mammal holes probably created by rodents and rock squirrels (*Spermophilus variegatus*).

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: *Click here to enter text.*
Wetland quality. Explain: *Click here to enter text.*
Project wetlands cross or serve as state boundaries. Explain: *Click here to enter text.*

[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: *Choose an item.* Explain: *Click here to enter text.*

Surface flow is: *Choose an item.*
Characteristics: *Click here to enter text.*

Subsurface flow: *Choose an item.* Explain findings: *Click here to enter text.*
☐ Dye (or other) test performed: *Click here to enter text.*

(c) Wetland Adjacency Determination with Non-TNW:
☐ Directly abutting
☐ Not directly abutting
☐ Discrete wetland hydrologic connection. Explain: *Click here to enter text.*
☐ Ecological connection. Explain: *Click here to enter text.*
☐ Separated by berm/barrier. Explain: *Click here to enter text.*

(d) Proximity (Relationship) to TNW
Project wetlands are *Choose an item.* river miles from TNW.
Project waters are *Choose an item.* aerial (straight) miles from TNW.
Flow is from: *Choose an item.*
Estimate approximate location of wetland as within the *Choose an item.* 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: *Click here to enter text.*
Identify specific pollutants, if known: *Click here to enter text.*

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

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: *Choose an item.*
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)
Y/N	*#*	*Y/N*	*#*
Y/N	*#*	*Y/N*	*#*
Y/N	*#*	*Y/N*	*#*
Y/N	*#*	*Y/N*	*#*

Summarize overall biological, chemical and physical functions being performed: *Click here to enter text.*

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:** The Tijeras Arroyo is the primary surface channel that drains surface water from the proposed project site into the Rio Grande approximately 10 miles downstream . According to the US Geological Survey, the Tijeras Arroyo is one of the major ephemeral arroyos that are tributary to the Rio Grande. The annual mean streamflow in the Tijeras Arroyo is 0.68 acre-feet per year (Ground-water Resources of the Middle Rio Grande Basin, New Mexico, James R. Bartolino, James C. Cole, U.S. Geological Survey).

According to the Tijeras Arroyo Biological Zone Open Space Resource Management Plan prepared by the City of Albuquerque, the Tijeras Arroyo is a perennial stream that becomes subsurface at the Four Hills fault. East of Four Hills Boulevard, Tijeras arroyo becomes a creek environment dominated by lower Montane Riparian Forest, whereas the western portion of Tijeras Arroyo near Four-Hills Boulevard has a gentle grade with a distinct active channel and broad floodplain which carry surface flows during flood events. The Tijeras Arroyo is a major thoroughfare for wildlife migrating between these mountain systems and the Rio Grande. Albuquerque's storm water management system in areas adjacent to the Tijeras Arroyo is designed to convey storm water runoff directly to the Tijeras Arroyo and then on to the Rio Grande. In most locations, this runoff enters the bosque prior to outfalling into the river. Water from municipal storm water outfalls is generally of low quality as storm water systems drain developed areas and contain high levels of automotive pollutants and debris, while irrigation return flows contain agricultural contaminants (e.g., fertilizers and pesticides). The problem of pollutants and toxins washing into the Tijeras Arroyo from adjacent developments and storm water conveyances has been well documented in the literature. (Tijeras Arroyo Biological Zone (Bio-Zone) Open Space Resource Management Plan, City of Albuquerque; Corrective Measures Evaluation Report for Tijeras Arroyo Groundwater, Sandia National Laboratories; Middle Rio Grande Total Maximum Daily Load (TMDL) For Fecal Coliform, NM Environment Department)

Average annual rainfall & snowfall in the project area are approximately 10 inches/year. There are no data for flow at the Four Hills site because the water bodies are ephemeral in this area. Flows in ephemeral portions of the Tijeras Arroyo are tied closely to local rainfall events and only occur during localized precipitation events. Precipitation in the Sandia Mountains can cause flow in the Tijeras Arroyo and these events typically occur during the monsoon season, large snow melt events, and spring rains. .

The upper reaches of the Tijeras Arroyo (Four Hills Bridge to headwaters) is on the 303(d) List of Impaired Surface Waters. The impaired segment is perennial in some portions and does not fully support the warmwater aquatic life designated use. Probable causes of impairment, according to the list, include Benthic-Macroinvertibrate Bioassessments (streams) and Nutrient/Eutrophication Biological Indicators. The probable sources of those impairments are channelization, discharges from municipal separate storm sewer systems (MS4), drought-related impacts, on-site treatment systems (septic systems and similar decentralized systems), rangeland grazing, and wastes from pets. The lower reach of the Tijeras Arroyo (Rio Grande to Four Hills Bridge) is not assessed because flow is ephemeral, but similar issues related to storm water and associated contaminants are expected to affect the lower reach when it is flowing**.**

Based on this information, the Tijeras Arroyo has a significant physical, chemical and biological nexus to the TNW, the Rio Grande.

The compound tributary system that is located throughout the proposed project area flows only during precipitation events and directly connects to the Tijeras Arroyo. The compound tributary is fed directly by stormflow piped through an upstream housing development from its watershed. The portions of the wash that are piped through the housing development are no longer jurisdictional, but are still hydrologically connected to the headwaters. Because the compound tributary is directly linked to the stormwater conveyance through the subdivision (located within the ABQ area MS4) pet waste and other contaminants from the subdivision are washed into the compound tributary, into the Tijeras Arroyo and can then be conveyed to the Rio Grande.

Based on this information, the compound tributary system to the Tijeras Arroyo has a significant physical and chemical nexus to the TNW, the Rio Grande.

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: *Click here to enter text.*

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: *Click here to enter text.*

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: *Click here to enter text.*.
   - ☐ 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: *Click here to enter text.*.

   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: *Click here to enter text.*

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   - [x] 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):
   - [x] Tributary waters: Tijeras Arroyo: 1,800 linear feet 70 width (ft) and 2.89 acres.
     Compound Tributary to Tijeras Arroyo: 2,350 linear feet 32 width (ft) and 1.73 acres.
   - [ ] Other non-wetland waters: # acres.
     Identify type(s) of waters: Ephemeral

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: *Click here to enter text.*
     - [ ] 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: *Click here to enter text.*

     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.**
   - [ ] 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: *Click here to enter text.*
- [ ] Other factors. Explain: *Click here to enter text.*

Identify water body and summarize rationale supporting determination: *Click here to enter text.*

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: *Click here to enter text.*
- [ ] 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: *Click here to enter text.*

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[8] See Footnote # 3.
[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.*

☐ Other: (explain, if not covered above): *Click here to enter text.*

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: *Click here to enter text.*.

☐ 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: *Click here to enter text.*.

☐ 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: submitted by Matt Brooks with Ecosystem Management, Inc. on 3/7/2014

☑ 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: *Click here to enter text.*

☐ Corps navigable waters' study: *Click here to enter text.*

☑ U.S. Geological Survey Hydrologic Atlas:

- ☑ USGS NHD data.
- ☑ USGS 8 and 12 digit HUC maps. HUC 8 13020203

☑ U.S. Geological Survey map(s). Cite scale & quad name: USGS 1:24,000 Scale Quad Name: Albuquerque East USGS 24k quadrangle

☑ USDA Natural Resources Conservation Service Soil Survey. Citation: U.S. Department of Agriculture Soil Conservation Service and Forest Service and U.S. Department of Interior Bureau of Indian Affairs and Bureau of Land Management. 1977. Soil survey of Bernalillo County and parts of Sandoval and Valencia Counties, New Mexico. U.S. Department of Agriculture and Department of Interior, Washington, D.C.

☐ National wetlands inventory map(s). Cite name: *Click here to enter text.*

☐ State/Local wetland inventory map(s): *Click here to enter text.*

☐ FEMA/FIRM maps: *Click here to enter text.*

☐ 100-year Floodplain Elevation is: *Click here to enter text.* (National Geodectic Vertical Datum of 1929)

☑ Photographs: ☐ Aerial (Name & Date): *Click here to enter text.*

☐ or ☑ Other (Name & Date): site photos submitted with AJD information on 3/7/2014 by Matt Brooks w/Ecosystem Mgmt.

☐ Previous determination(s). File no. and date of response letter: *Click here to enter text.*

☐ Applicable/supporting case law: *Click here to enter text.*

☑ Applicable/supporting scientific literature: Ecosystem Management, Inc. 2014. Biological evaluation for proposed Juan Tabo Hills West subdivision project. EMI, Albuquerque, NM.

☑ Other information (please specify): References for Significant Nexus Determination- Section C (1)
Attachment C titled *Delineation of Waters of the U.S. for Proposed Juan Tabo Hills West Project*;
U.S. Climate Data. Online: http://www.usclimatedata.com/climate.php?location=USNM0005. Accessed 03 March 2014;
Ground-water Resources of the Middle Rio Grande Basin, New Mexico, James R. Bartolino, James C. Cole, U.S. Geological Survey;
Fact Sheet titled *Groundwater Contamination and Remediation Options at the Technical Area Five (TA-V) and the Tijeras Arroyo Groundwater (TAG) Environmental Remediation Sites at Sandia National Laboratories, New Mexico.* July 2011.
City of Albuquerque Open Space Division's Management Plan titled, *Tijeras Arroyo Biological Zone (Bio-Zone) Open Space Resource Management Plan;*
Sandia National Laboratories Report, SAND2005-5297, titled *Corrective Measures Evaluation Report for Tijeras Arroyo Groundwater;*
New Mexico Environment Department, Surface Water Quality Bureau, *Middle Rio Grande Total Maximum Daily Load (TMDL) for Fecal Coliform*, November 2011.
2012-2014 State of New Mexico Clean Water Act Section 303(d)/305(b) Integrated Report

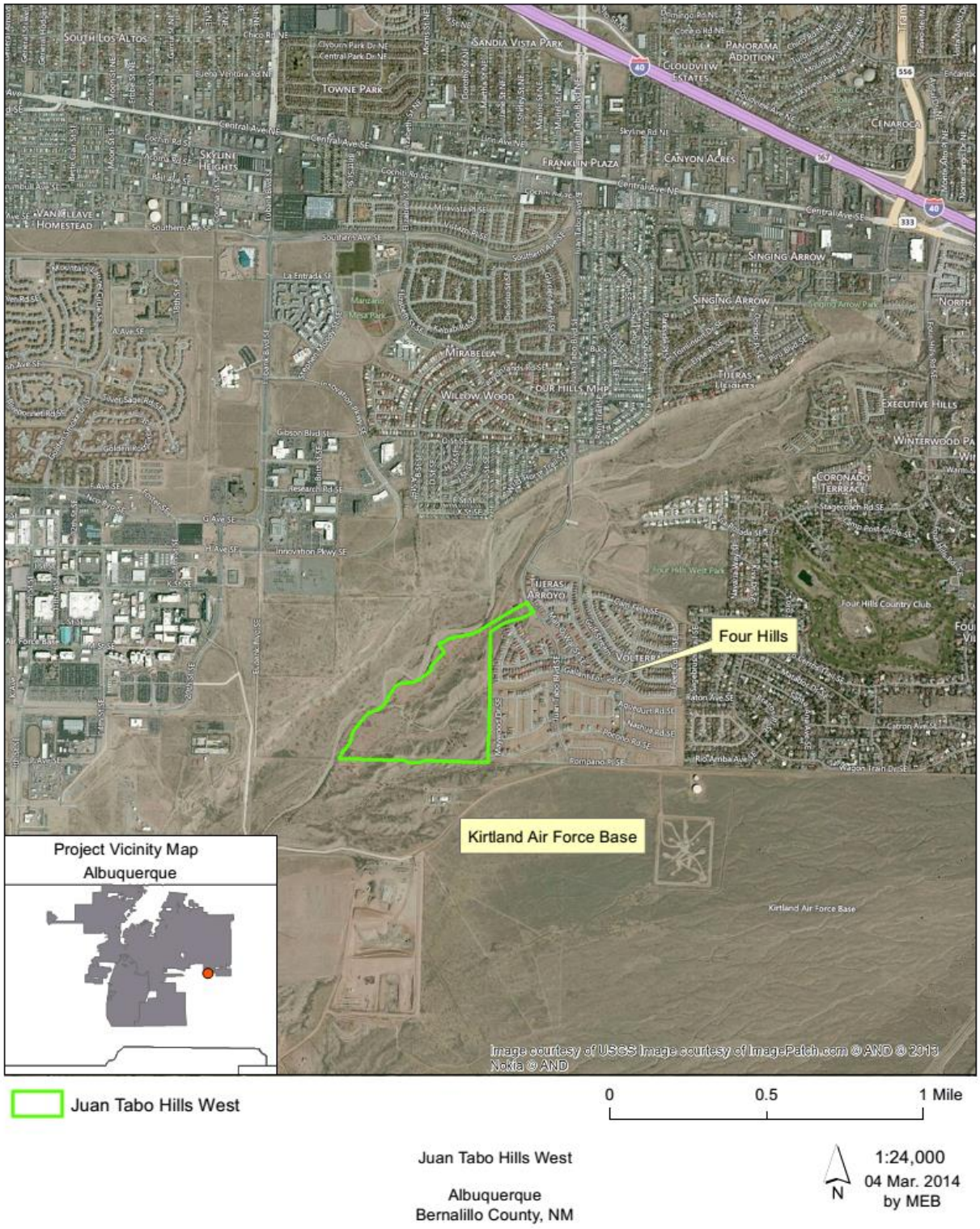

Figure 1. Vicinity map.

Legend

- Disturbance area
- Property boundary
- Waters permanent impacts
- Delineated Tijeras Arroyo

0 250 500 Meters

N W E S

1:10,000 scale
04 Mar. 2014
by MEB

Juan Tabo Hills West project

Albuquerque
Bernalillo County, New Mexico

Delinated waters of the U.S.
Delineated June 29, 2012, and February 12–13, 2014

ECOSYSTEM MANAGEMENT, INC.