California High-Speed Rail Authority

Bakersfield to Palmdale Project Section

Draft Project Environmental Impact Report/Environmental Impact Statement

Appendix 8-B: Concurrence Letters

November 2018

CALIFORNIA High-Speed Rail Authority

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being or have been carried out by the State of California pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated July 23, 2019, and executed by the Federal Railroad Administration and the State of California.

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CALIFORNIA
High-Speed Rail Authority

U.S. Department of Transportation
Federal Railroad Administration

June 29, 2017

Clifton Meek
NEPA Reviewer - Transportation
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street, ENF-4-2
San Francisco, CA 94105

Spencer D. MacNeil
Chief, Transportation and Special Projects Branch
U.S. Army Corps of Engineers, Los Angeles District
2151 Alessandro Drive, Suite 110
Ventura, CA 93001

RE: California High-Speed Rail, Bakersfield to Palmdale Section, Notice to Withdraw from NEPA/404/408/MOU

Dear Mr. Meek and Mr. MacNeil:

As we have previously discussed with you, the Federal Railroad Administration (FRA) and the California High-Speed Rail Authority (Authority) are providing this joint written notice of our withdrawal from the 2010 MOU for the Bakersfield to Palmdale Section of the California High-Speed Train Program. We are withdrawing because based on best available information we have identified no waters under the jurisdiction of the US Army Corps of Engineers (USACE) pursuant to sections 404 and 408 of the Clean Water Act.

Our decision to withdraw is based on an Approved Jurisdictional Determination (AJD) application demonstrating that the Bakersfield to Palmdale section does not include Waters of the U.S. under the Clean Water Act section 404. We submitted the AJD application to USACE for its concurrence on January 11, 2017. Further, we have identified no resource requiring review under the USACE's Section 408 program.

In providing this notice, we will continue to engage with both the U.S. Environmental Protection Agency and the USACE as we develop our Draft and Final Environmental Impact Report/Environmental Impact Statement. We greatly appreciate your participation in our environmental review process and note that USACE has agreed to participate as a cooperating agency under NEPA in the Tier 2 environmental process and we will coordinate with USACE accordingly.

EDMUND G. BROWN JR.
GOVERNOR

770 L Street, Suite 620, Sacramento, CA 95814 • T: (916) 324-1541 • F: (916) 322-0827 • www.hsr.ca.gov

Should you have any questions regarding this notice, please contact Stephanie Perez-Arrieta at Stephanie.Perez@dot.gov or (202) 493-0388 on behalf of FRA and Mark McLoughlin at Mark.McLoughlin@hsr.ca.gov or (916) 403-6934 for the Authority.

Sincerely,

Marlys Osterhues
Chief Environment and Corridor Planner
Federal Railroad Administration

Mark A. McLoughlin
Director, Environmental Services
California High-Speed Rail Authority

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
915 WILSHIRE BOULEVARD, SUITE 930
LOS ANGELES, CA 90017-3401

December 11, 2017

Mark A. McLoughlin, Director of Environmental Services
California High Speed Rail Authority
777 L Street, Suite 620
Sacramento, California 95814

SUBJECT: Approved Jurisdictional Determination regarding geographic jurisdiction

Dear Mr. McLoughlin:

I am responding to your request (File No. SPL-2010-00945-VCL) dated January 6, 2017, for an approved Department of the Army jurisdictional determination (JD) for the California High Speed Train Bakersfield to Palmdale Project Section site (Lat/Long: 35.038628°N, -118.285486°W) located between the City of Bakersfield, Kern County, and the City of Palmdale, Los Angeles County, California (see attached approved JD maps).

The Corps' evaluation process for determining whether or not a Department of the Army permit is needed involves two tests. If both tests are met, a permit would likely be required. The first test determines whether or not the proposed project is located within the Corps' geographic jurisdiction (i.e., it is within a water of the United States). The second test determines whether or not the proposed project is a regulated activity under Section 10 of the Rivers and Harbors Act or Section 404 of the Clean Water Act. This evaluation pertains only to geographic jurisdiction.

Based on available information, I have determined waters of the United States do not occur on the project site. The basis for our determination can be found in the enclosed approved Jurisdictional Determination (JD) form(s).

The aquatic resources identified in project documentation you provided are “intrastate isolated waters” with no apparent interstate or foreign commerce connection. As such, these aquatic resources are not currently regulated by the Corps of Engineers. This disclaimer of jurisdiction is only for Section 404 of the Clean Water Act. Other federal, state, and local laws may apply to your activities. In particular, you may need authorization from the California State Water Resources Control Board, the California Department of Fish and Wildlife, and/or the U.S. Fish and Wildlife Service.

This letter includes an approved jurisdictional determination for the California High Speed Train Bakersfield to Palmdale Project Section site drainages. If you wish to submit new information regarding this jurisdictional determination, please do so within 60 days. We will consider any new information so submitted and **respond within 60 days** by either revising the

prior determination if appropriate, or reissuing the prior determination. If you object to this or any revised or reissued jurisdictional determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you wish to appeal this decision, you must submit a completed RFA form within 60 days of the date on the NAP to the Corps South Pacific Division Office at the following address:

Tom Cavanaugh
Administrative Appeal Review Officer
U.S. Army Corps of Engineers
South Pacific Division, CESPD-PDS-O, 2042B
1455 Market Street
San Francisco, California 94103-1399

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5 (see below), and that it has been received by the Division Office by **February 2, 2017**.

This determination has been conducted to identify the extent of the Corps' Clean Water Act jurisdiction on the particular project site identified in your request, and is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

Thank you for participating in the regulatory program. If you have any questions, please contact me at (213) 452-3292 or via e-mail at Veronica.C.Li@usace.army.mil. Please help me to evaluate and improve the regulatory experience for others by completing the customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey.

Sincerely,

COHEN.MARK.D.1239558450

Digitally signed by COHEN.MARK.D.1239558450
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=COHEN.MARK.D.1239558450
Date: 2017.12.11 09:32:52 -08'00'

Mark D. Cohen
Deputy Chief, Regulatory Division

Enclosure(s)

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: California High Speed Rail Authority, Attn: Mr. Mark McLoughlin	File No.: SPL-2010-00945-VCL	Date: December 4, 2017
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at *http://www.usace.army.mil/cecw/pages/reg_materials.aspx* or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Veronica Li, Senior Project Manager
Transportation & Special Projects Branch
ATTN: SPL-2010-00945-VCL
U.S. Army Corps of Engineers
Los Angeles District
915 Wilshire Boulevard, Suite 930
Los Angeles, California 90017-3401
Phone: (213) 452-3292, FAX 916-557-7803
Email: Veronica.C.Li@usace.army.mil

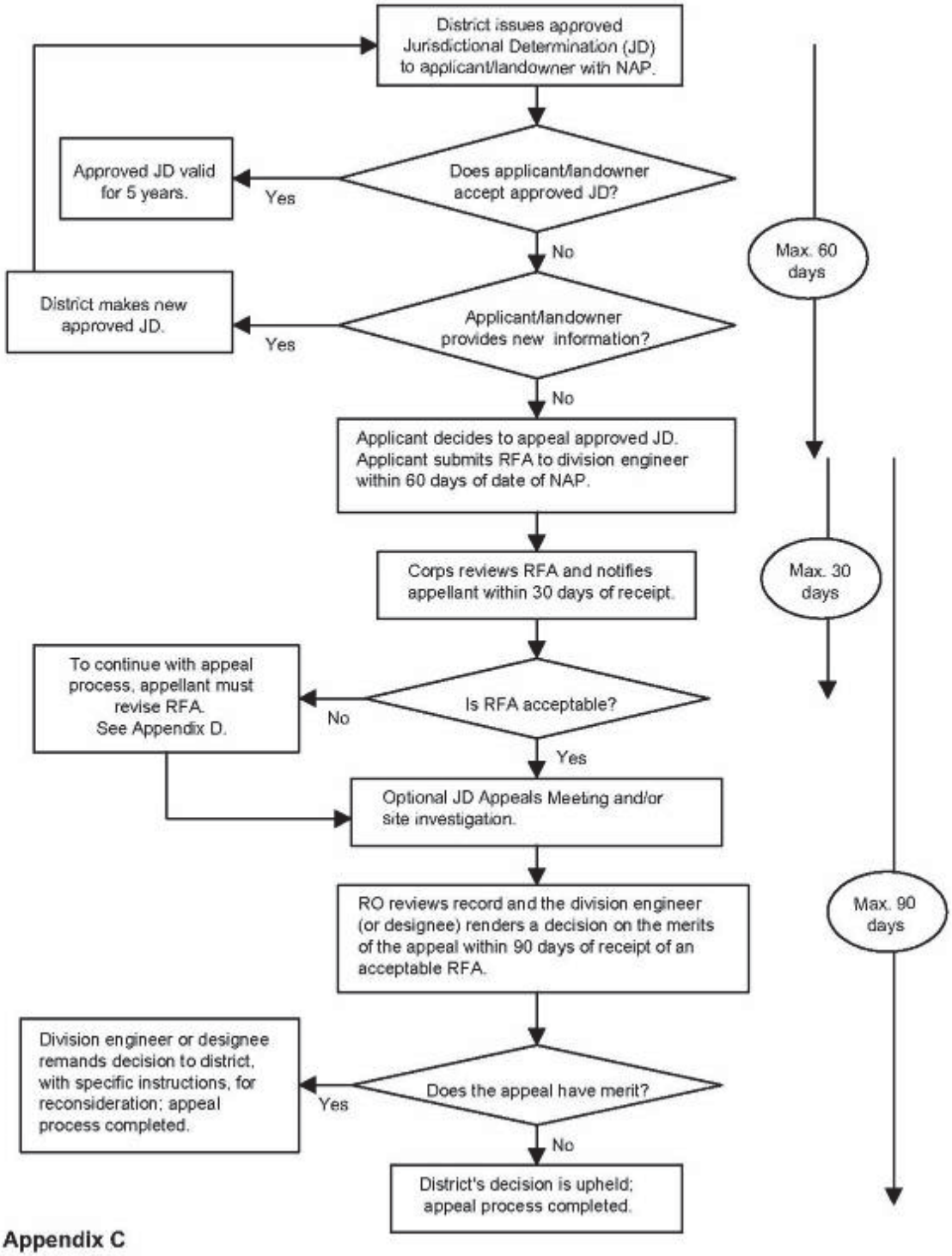
If you only have questions regarding the appeal process you may also contact:

Thomas J. Cavanaugh
Administrative Appeal Review Officer
U.S. Army Corps of Engineers
South Pacific Division
1455 Market Street, 2052B
San Francisco, California 94103-1399
Phone: 415-503-6574, FAX 415-503-6646)
Email: Thomas.J.Cavanaugh@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:

Administrative Appeal Process for Approved Jurisdictional Determinations



Appendix C

§ 331.5 Criteria.

(a) *Criteria for appeal —*(1) *Submission of RFA.* The appellant must submit a completed RFA (as defined at §331.2) to the appropriate division office in order to appeal an approved JD, a permit denial, or a declined permit. An individual permit that has been signed by the applicant, and subsequently unilaterally modified by the district engineer pursuant to 33 CFR 325.7, may be appealed under this process, provided that the applicant has not started work in waters of the United States authorized by the permit. The RFA must be received by the division engineer within 60 days of the date of the NAP.

(2) *Reasons for appeal.* The reason(s) for requesting an appeal of an approved JD, a permit denial, or a declined permit must be specifically stated in the RFA and must be more than a simple request for appeal because the affected party did not like the approved JD, permit decision, or the permit conditions. Examples of reasons for appeals include, but are not limited to, the following: A procedural error; an incorrect application of law, regulation or officially promulgated policy; omission of material fact; incorrect application of the current regulatory criteria and associated guidance for identifying and delineating wetlands; incorrect application of the Section 404(b)(1) Guidelines (see 40 CFR Part 230); or use of incorrect data. The reasons for appealing a permit denial or a declined permit may include jurisdiction issues, whether or not a previous approved JD was appealed.

(b) *Actions not appealable.* An action or decision is not subject to an administrative appeal under this part if it falls into one or more of the following categories:

(1) An individual permit decision (including a letter of permission or a standard permit with special conditions), where the permit has been accepted and signed by the permittee. By signing the permit, the applicant waives all rights to appeal the terms and conditions of the permit, unless the authorized work has not started in waters of the United States and that issued permit is subsequently modified by the district engineer pursuant to 33 CFR 325.7;

(2) Any site-specific matter that has been the subject of a final decision of the Federal courts;

(3) A final Corps decision that has resulted from additional analysis and evaluation, as directed by a final appeal decision;

(4) A permit denial without prejudice or a declined permit, where the controlling factor cannot be changed by the Corps decision maker (e.g., the requirements of a binding statute, regulation, state Section 401 water quality certification, state coastal zone management disapproval, etc. (See 33 CFR 320.4(j));

(5) A permit denial case where the applicant has subsequently modified the proposed project, because this would constitute an amended application that would require a new public interest review, rather than an appeal of the existing record and decision;

(6) Any request for the appeal of an approved JD, a denied permit, or a declined permit where the RFA has not been received by the division engineer within 60 days of the date of the NAP;

(7) A previously approved JD that has been superceded by another approved JD based on new information or data submitted by the applicant. The new approved JD is an appealable action;

(8) An approved JD associated with an individual permit where the permit has been accepted and signed by the permittee;

(9) A preliminary JD; or

(10) A JD associated with unauthorized activities except as provided in §331.11.

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): January 27, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District, California High-Speed Rail, Bakersfield to Palmdale Section, SPL-2010-00945

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **California** County/parish/borough: **Kern** City:
Center coordinates of site (lat/long in degree decimal format): Lat. **35.341170°**, Long. **-118.856917°**
Universal Transverse Mercator: **11 331249.71 3912460.69**
Name of nearest waterbody: **Kern River**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **N/A**
Name of watershed or Hydrologic Unit Code (HUC): **Middle Kern-Upper Tehachapi-Grapevine, 18030003**
☒ 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: **Waters within the boundary of the Sacramento District are split into two review areas, waters within the Caliente Creek watershed and waters within the San Joaquin Valley west of Caliente Creek. The projects extends into Los Angeles District and waters within this area are being evaluated separately.**

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

☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): **July 18, 2016**

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 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: 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: **The 2,274-acre review area includes approximately 27.18 acres of waters, consisting of approximately 23.54 acres of basins, 3.30 acres of canals, and 0.34 acre of ditches. The basins and ditches are industrial and agricultural and are not connected to larger irrigation or water circulation systems.**

[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.

The 3.30 acres of canals consists of 2.79 acres of the East Side Canal and 0.51 acre of the Arvin Edison Canal. The East Side Canal receives irrigation water from the Kern River while the Arvin Edison Canal receives water from the Friant-Kern Canal. Both canals deliver irrigation water to users southeast of Bakersfield and do not connect any other water bodies. In personal communication with Mark Mulkay, General Manager of the Kern Delta Water District, on January 30, 2017, he confirmed that both canals flow away from the Kern River and do not connect to another water body or conveyance. Both canals would require manual pumping to reverse flows back to the Kern River.

The features within the review area are intrastate isolated waters with no connection to foreign or interstate commerce.

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 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: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.

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

☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW[5]:
Tributary stream order, if known:

(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: feet
Average depth: feet
Average side slopes: **Pick List.**

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:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime:
Other information on duration and volume:

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

Subsurface flow: **Pick List**. 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 ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:

[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.
[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.

☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain:
Identify specific pollutants, if known:

(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:
☐ 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

(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:

(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:

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-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: 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 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:
☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

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

[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.*

☐ Tributary waters: linear feet, wide.
☐ Other non-wetland waters: acres.
Identify type(s) of waters:
☐ Wetlands: acres.

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

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

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): acres.
☐ Lakes/ponds: acres. List type of aquatic resource:
☒ Other non-wetland waters: **27.18** acres. List type of aquatic resource: **23.54 acres of basins, 3.30 acres of canals, and 0.34 acre of ditches**
☐ 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, wide.
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: acres.

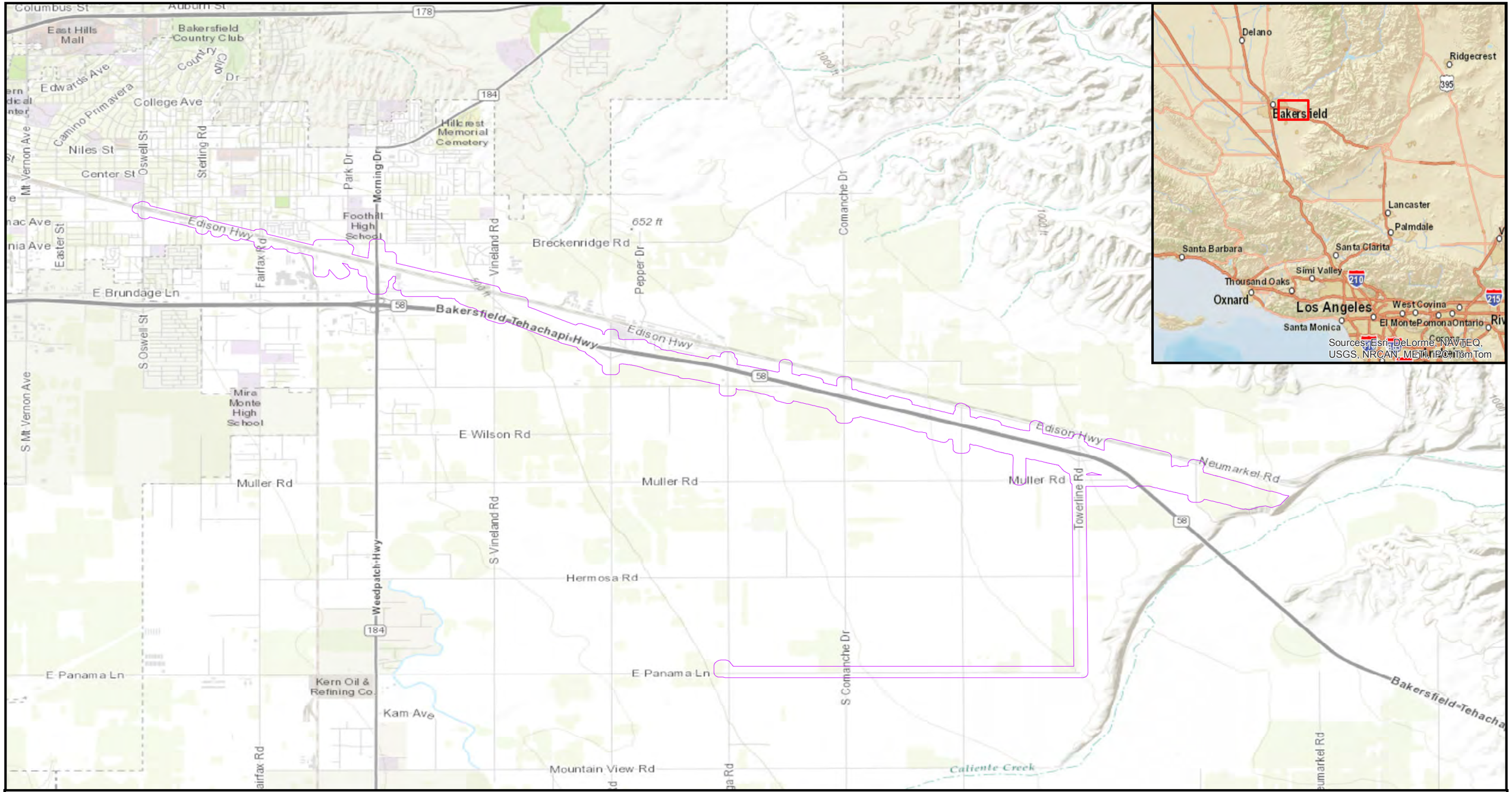
SECTION IV: DATA SOURCES.

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

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **Appendix E: Jurisdictional Delineation Mabook, Aquatic Resources, Study Area for Bakersfield Palmdale, Sheets 1 through 22 of 171, Dated November 4, 2016**
☐ 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:
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24K; CA-Edison, CA-Lamont**
☐ 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): **Personal Communication between Mr. Mark Mulkay, General Manager, Kern Delta Water District, and Mr. Zachary Simmons, Senior Project Manager, USACE, January 30, 2017.**

B. ADDITIONAL COMMENTS TO SUPPORT JD:

See Section II(B)(2)



0 0.2 0.4 0.8 1.2 1.6 Miles

Bakersfield to Palmdale Section
California High-Speed Rail
Kern County, Ca
SPL-2010-945
January 30, 2017

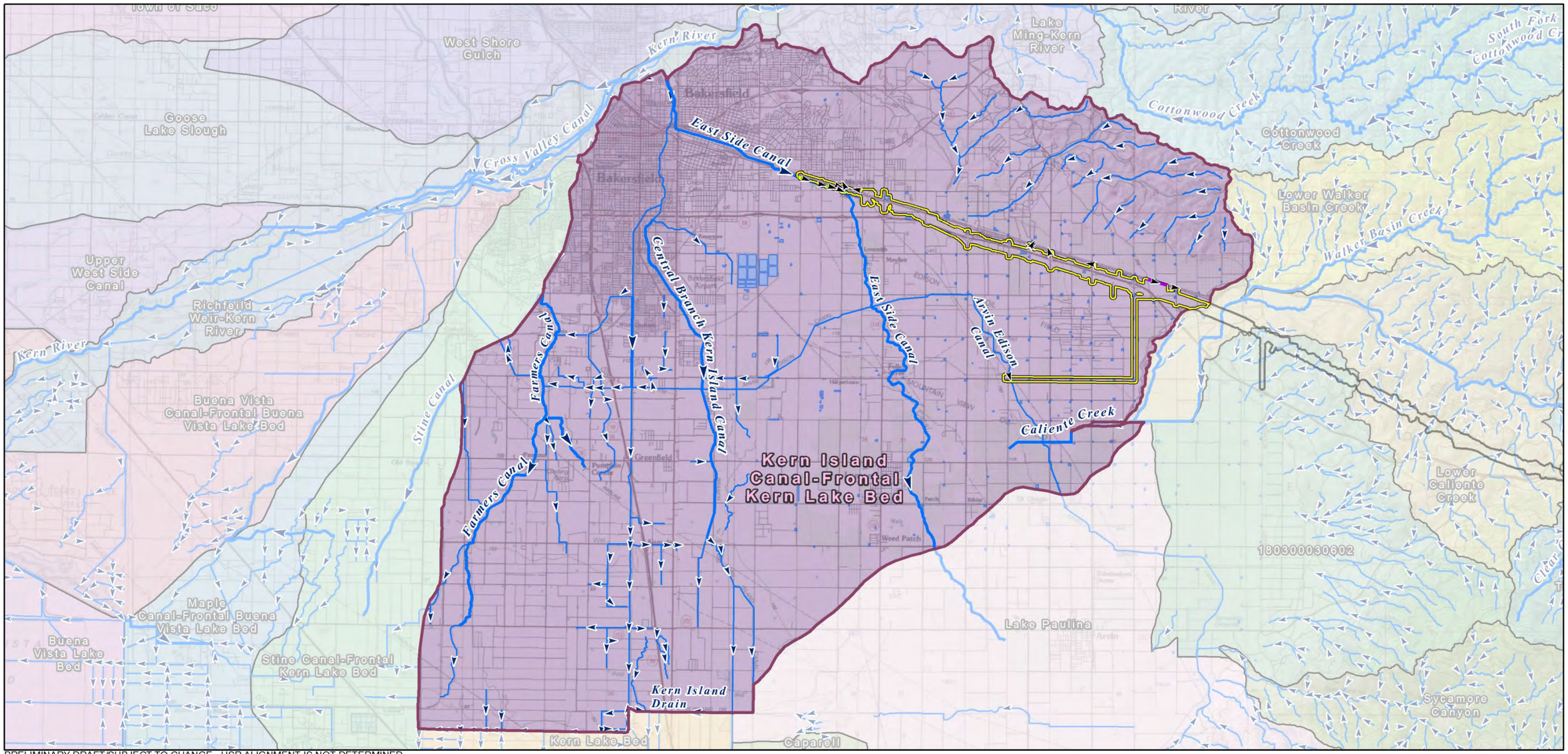
Map Prepared By:
Zachary Simmons
Senior Project Manager
US Army Corps of Engineers
Sacramento District,
Regulatory Division
1325 J Street, Room 1350
Sacramento, California 95814-2922

Legend

Valley Study Area

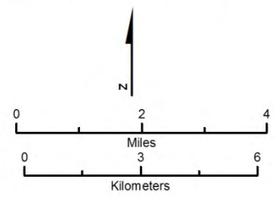
N W E S

Datum: D_North_American_1983



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 18, 2016

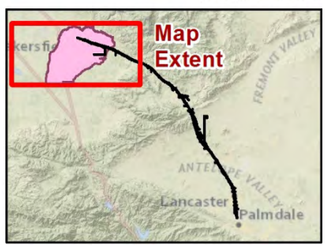


BP HSR Mapped Streams with OHWM in Kern Island Canal-Frontal Kern Lake Bed Watershed Study Area

- Culvert
- Canal
- Ditch

- Study Area in Kern Island Canal-Frontal Kern Lake Bed Watershed
- Kern Island Canal-Frontal Kern Lake Bed HUC-12 Watershed
- Other HUC-12 Watersheds

- Wetlands Study Area (Project Footprint + 250 ft Buffer)
- NHD Waterbodies
- Direction of flow based on NHD flowlines



Kern Island Canal-Frontal Kern Lake Bed Watershed Hydrologic Connectivity

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 18, 2016

N

0 0.5 1 Miles

0 1 2 Kilometers

BP HSR Mapped Streams with OHWM in Kern Island Canal-Frontal Kern Lake Bed Watershed Study Area

- Culvert
- Canal
- Ditch

- Study Area in Kern Island Canal-Frontal Kern Lake Bed Watershed
- Kern Island Canal-Frontal Kern Lake Bed HUC-12 Watershed

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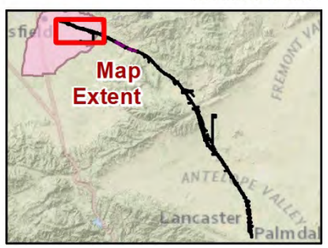
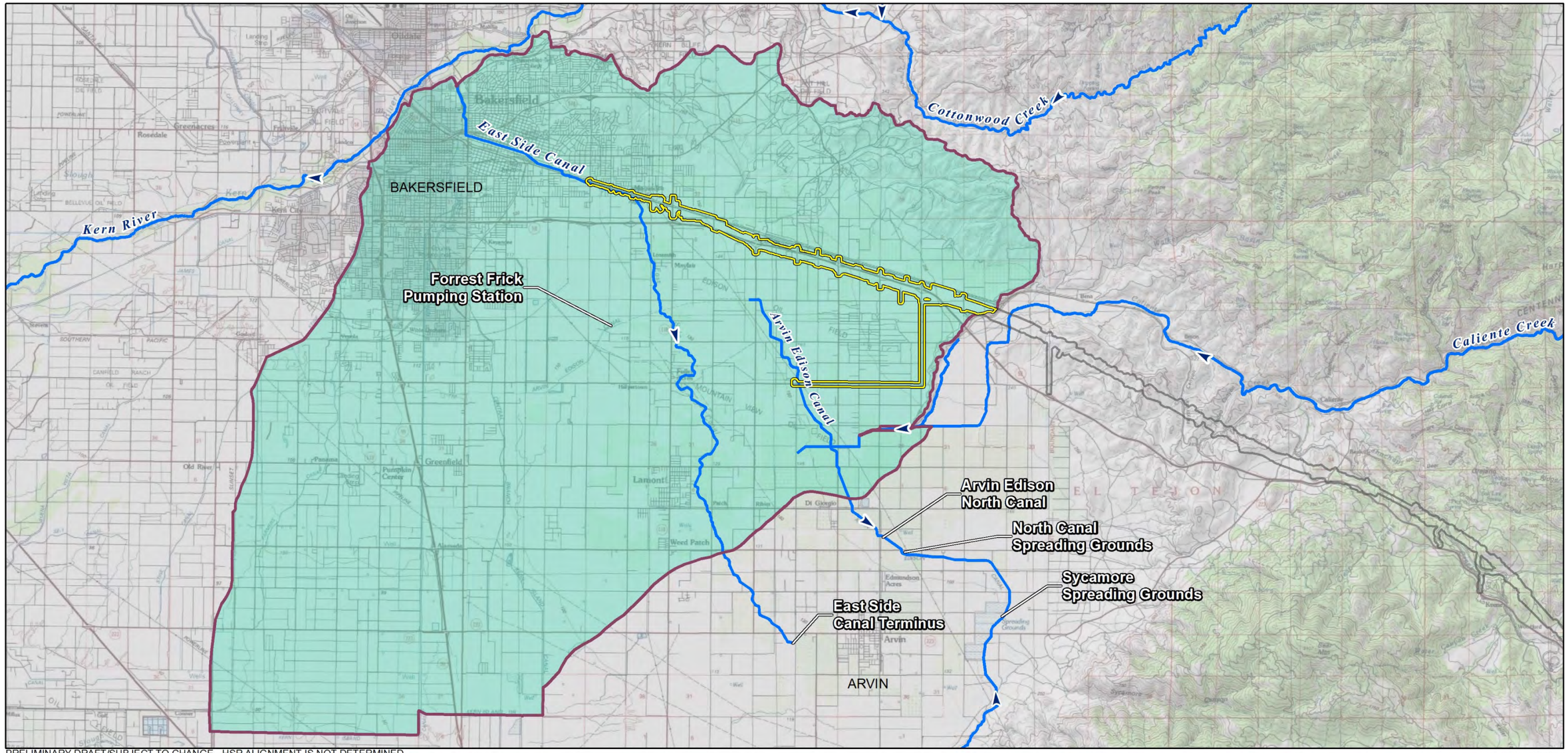
- NHD Waterbodies
- Direction of flow based on NHD flowlines



Kern Island Canal-Frontal Kern Lake Bed Watershed Study Area Hydrologic Connectivity



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December 2, 2016

N

0 1 2 Miles

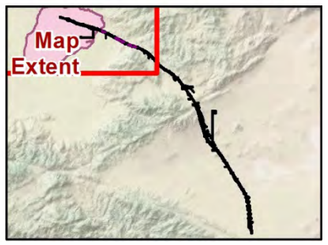
0 2 4 Kilometers

Study Area in Kern Island Canal-Frontal Kern Lake Bed Watershed

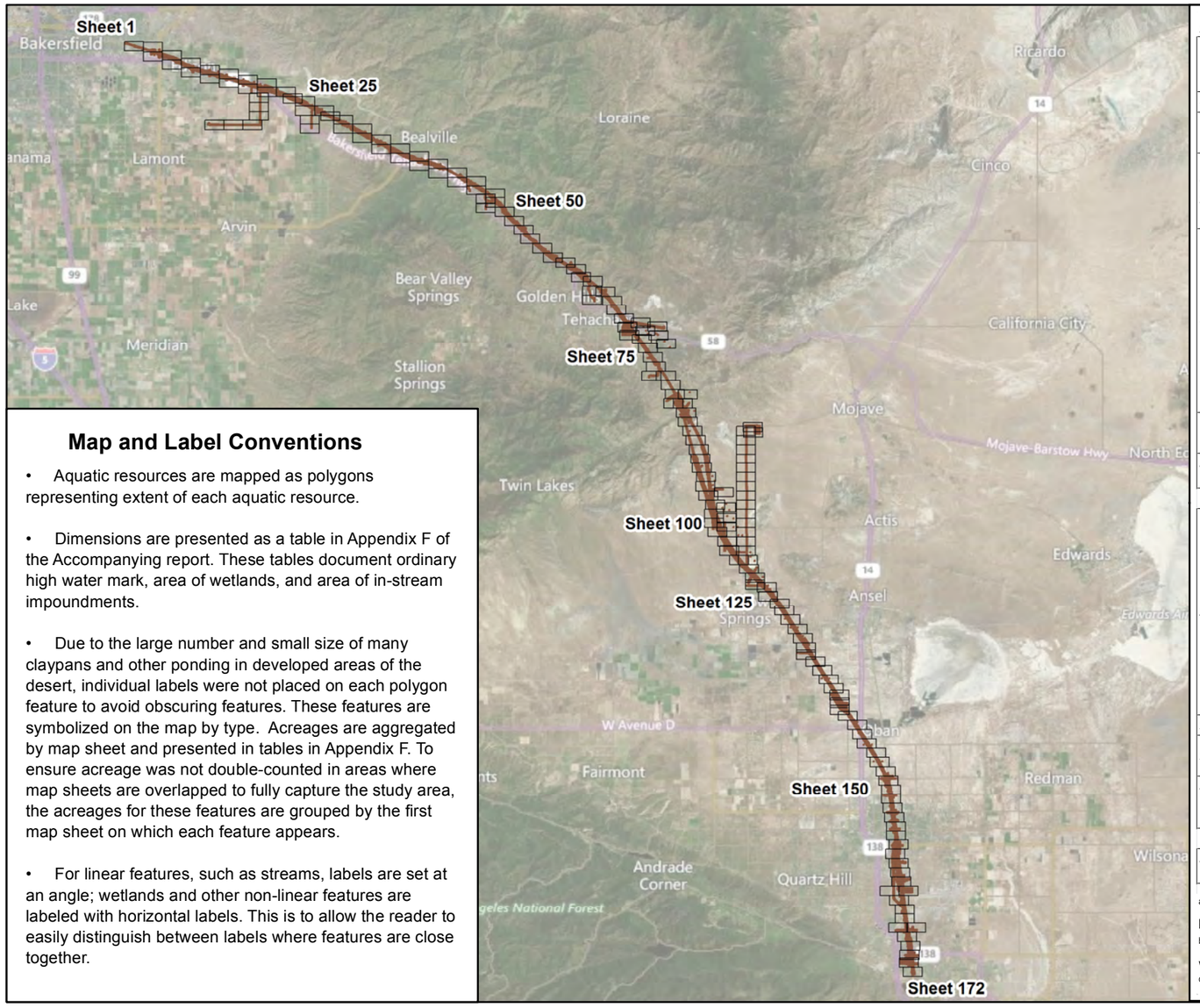
Kern Island Canal-Frontal Kern Lake Bed HUC-12 Watershed

Wetlands Study Area (Project Footprint + 250 ft Buffer)

Streams/Channels based on NHD flowlines



Kern Island Canal-Frontal Kern Lake Bed Watershed Receiving Waters



Map and Label Conventions

- Aquatic resources are mapped as polygons representing extent of each aquatic resource.
- Dimensions are presented as a table in Appendix F of the Accompanying report. These tables document ordinary high water mark, area of wetlands, and area of in-stream impoundments.
- Due to the large number and small size of many claypans and other ponding in developed areas of the desert, individual labels were not placed on each polygon feature to avoid obscuring features. These features are symbolized on the map by type. Acreages are aggregated by map sheet and presented in tables in Appendix F. To ensure acreage was not double-counted in areas where map sheets are overlapped to fully capture the study area, the acreages for these features are grouped by the first map sheet on which each feature appears.
- For linear features, such as streams, labels are set at an angle; wetlands and other non-linear features are labeled with horizontal labels. This is to allow the reader to easily distinguish between labels where features are close together.

Acreage Summary: Potentially Jurisdictional Waters in the Aquatic Resources Study Area [a]

Feature Type		Cowardin Classification	Extent of features to OHWM or edge of Wetland Acres[b]	Expected Jurisdictional Status[c]
Seasonal wetland		Palustrine emergent	4.05	Non-jurisdictional due to isolation as intrastate isolated waters, with no apparent interstate or foreign commerce connection (33 CFR 328.3 (a)(3)
Forested wetland		Palustrine forested	2.76	
		Palustrine scrub-shrub		
Claypans and Desert Ponded Areas	Natural Claypans	Palustrine unconsolidated bottom	13.69	
		Palustrine emergent		
	Ponding in Desert Developed Areas	Palustrine unconsolidated bottom	1.98	
Streams and Washes	Ephemeral Streams	Riverine unconsolidated bottom	21.36	
		Palustrine scrub-shrub		
	Desert Wash	Riverine unconsolidated bottom	15.89	
	Intermittent Streams	Riverine unconsolidated bottom	13.39	
		Palustrine forested		
		Palustrine scrub-shrub		
	Perennial Streams	Riverine unconsolidated bottom	0.80	
		Palustrine forested		
		Palustrine scrub-shrub		
In-stream impoundments		Palustrine unconsolidated bottom	0.71	
		Palustrine emergent		
Total Extent of Features that are Non-jurisdictional due to Isolation			**74.63 acres**	
Artificial Watercourse – canals		(Riverine unconsolidated bottom)	3.30	Non-jurisdictional – artificial features constructed in uplands, and the features are non-navigable, intrastate isolated waters with no apparent interstate or foreign commerce connection (33 CFR 328.3 (a)(3)
Artificial Watercourse – ditches		(Riverine unconsolidated bottom)	5.60	
Artificial Watercourse – detention/retention basins		Palustrine unconsolidated bottom	53.43	
		Palustrine emergent		
Total Extent of Features that are Non-jurisdictional – artificial features constructed in uplands			**62.33 acres**	
Total Extent of features to OHWM /edge of Wetland			**136.96 acres**	

[a] The ARSA includes linear and auxiliary project construction features (i.e., traction power substations, switching stations, paralleling stations, road overcrossings, heavy maintenance facilities), operations and maintenance facilities and access points, temporary disturbance areas associated with construction, plus a 250-foot buffer

[b] Acreage values are calculated in the ARSA. Acreage totals are derived from raw GIS data, and as a result, they may not exactly equal the sum of the rounded values presented in the table.

[c] Subject to USACE and US EPA concurrence with findings of this report.

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Phase 4B Engineering data from CHSR (4/2016); BLM (3/2016).

N

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Miles

0 6 12
Kilometers

Atlas Sheet Index

Aquatic Resources Study Area (Project Footprint +250ft Buffer)

Aquatic Resources

Study Area for Bakersfield to Palmdale

November 4, 2016

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

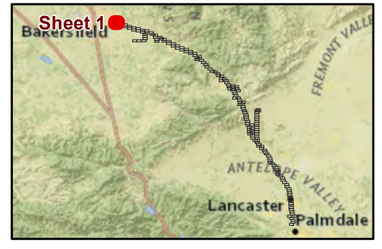
0 60 120
Meters

1 inch = 400 feet

Ditch
Canal
Basin
Culvert Connection
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

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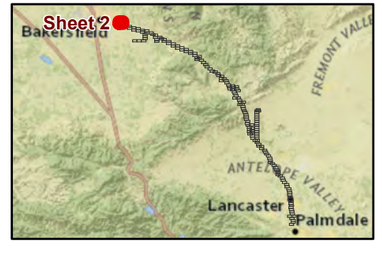
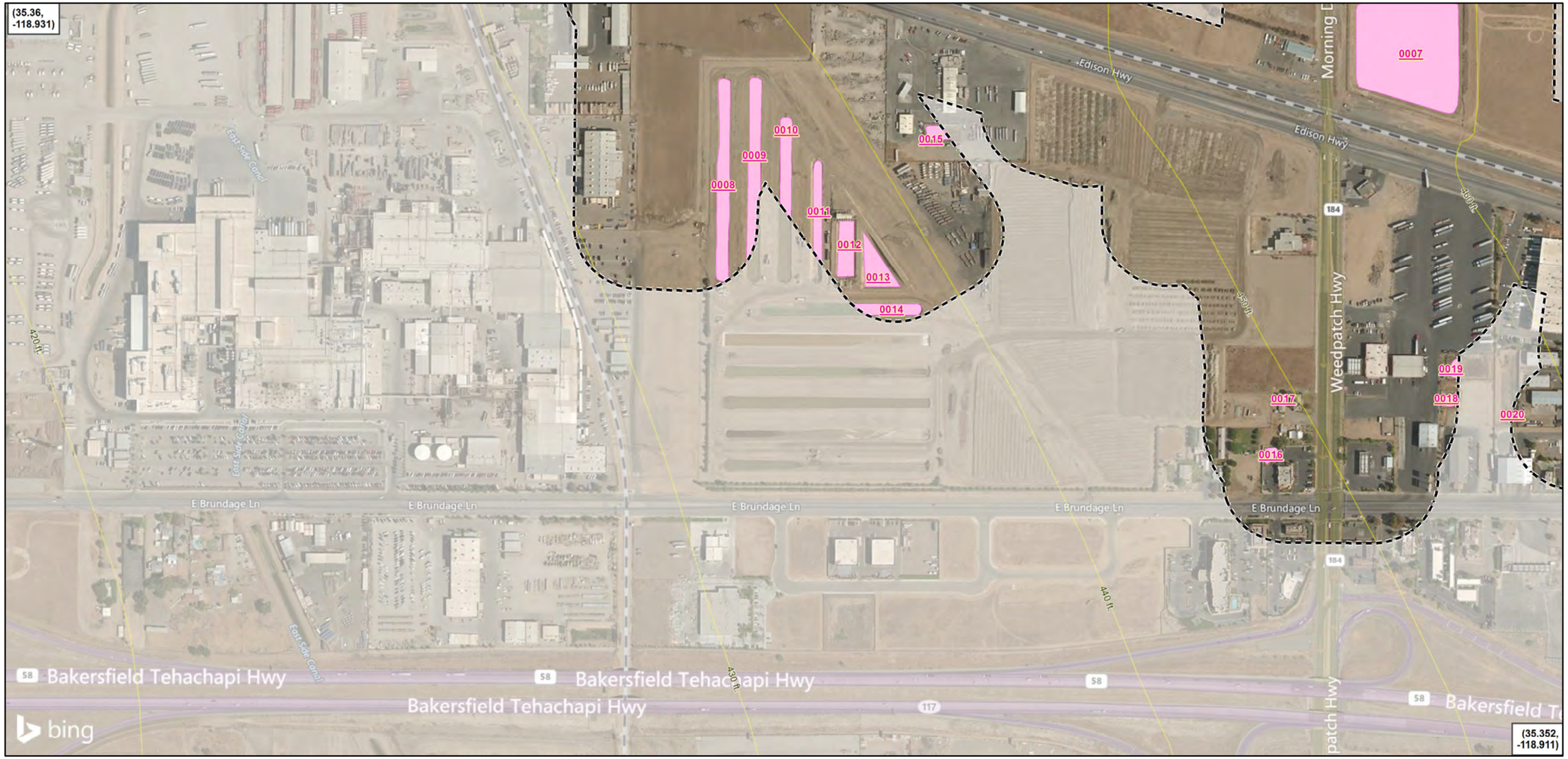


Aquatic Resources

Study Area for Bakersfield to Palmdale



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Feet

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Meters

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Aquatic Resources Study Area
(Project Footprint +250 ft Buffer)

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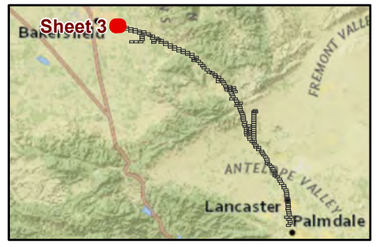

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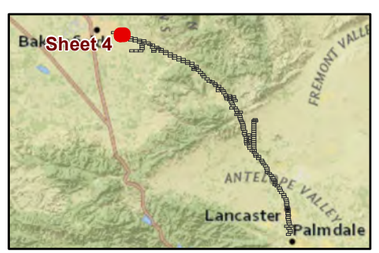

Aquatic Resources

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(Project Footprint +250 ft Buffer)

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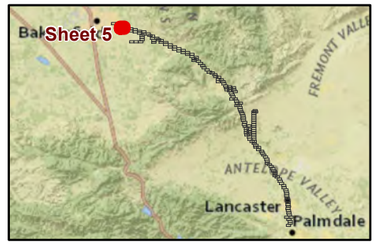

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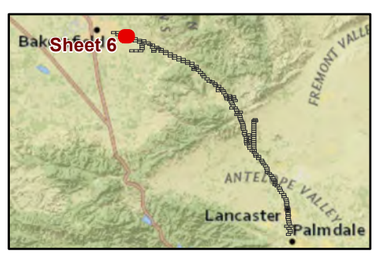

Aquatic Resources

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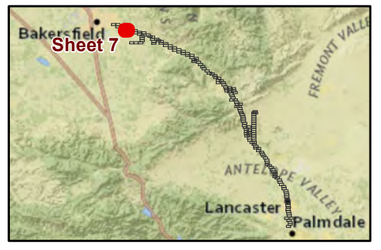
0 60 120
Meters

1 inch = 400 feet

Basin
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

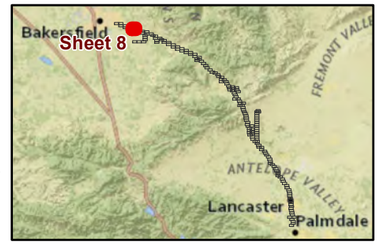
0 60 120
Meters

1 inch = 400 feet

Ditch
Basin
Culvert Connection
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Basin

Aquatic Resources Study Area
(Project Footprint +250 ft Buffer)

Elevation Contour

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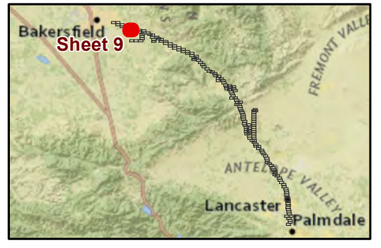

Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ditch

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Elevation Contour

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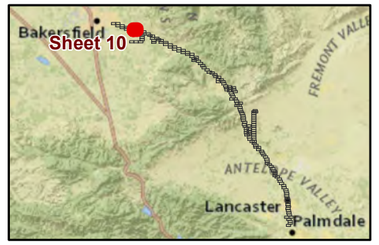

Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Basin

Aquatic Resources Study Area
(Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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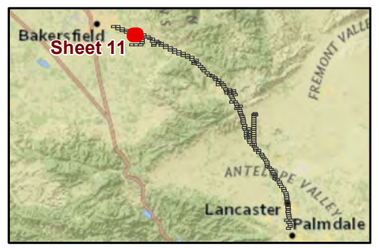

Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ditch
Basin
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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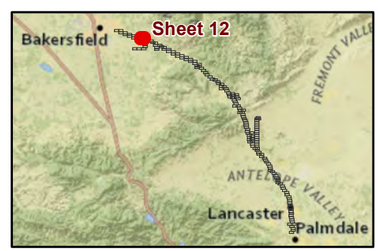
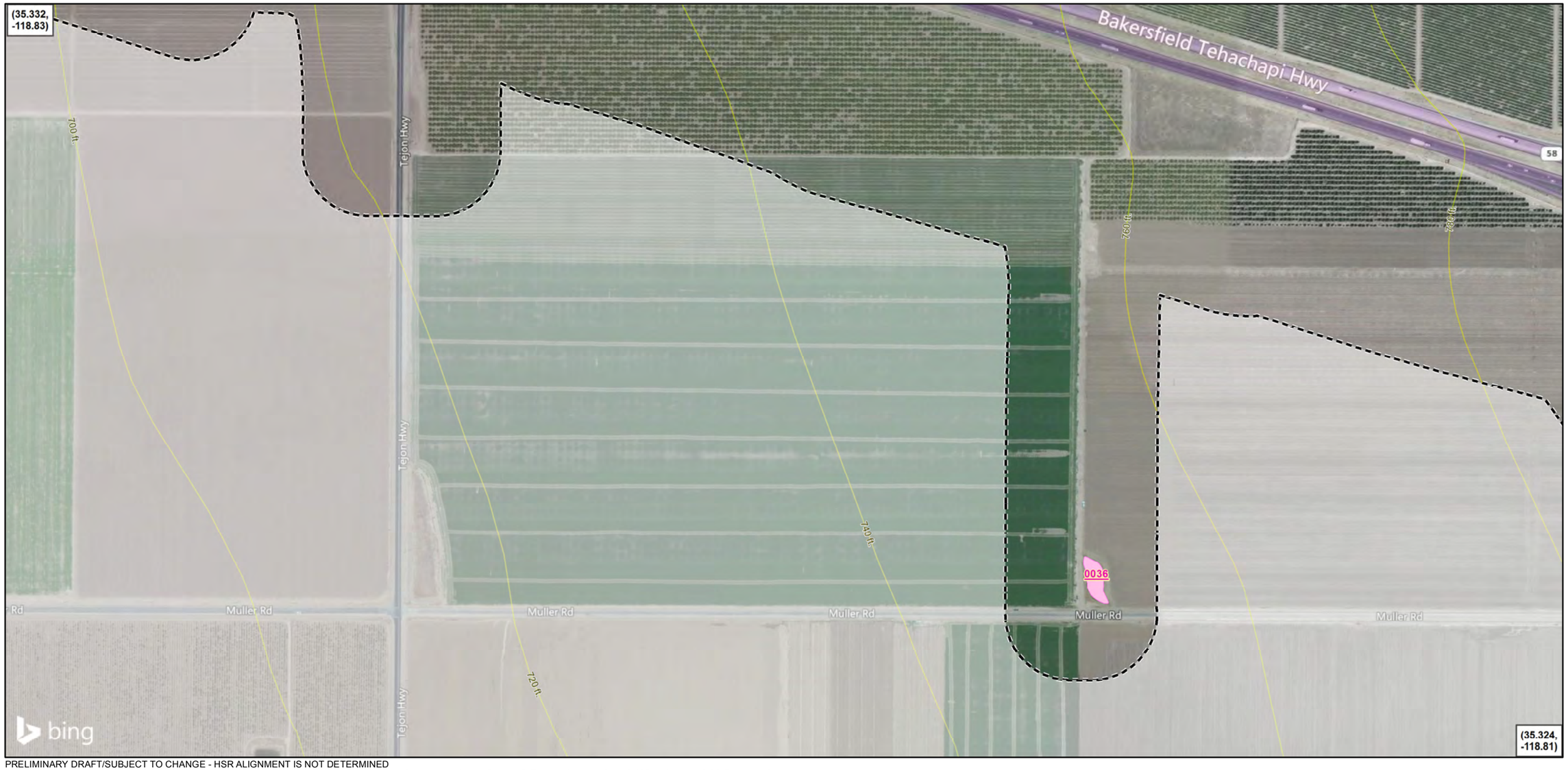
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Basin

Aquatic Resources Study Area
(Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
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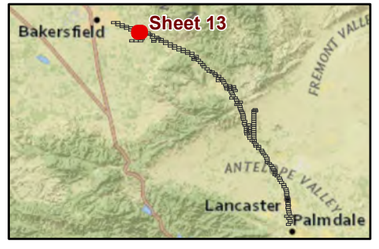
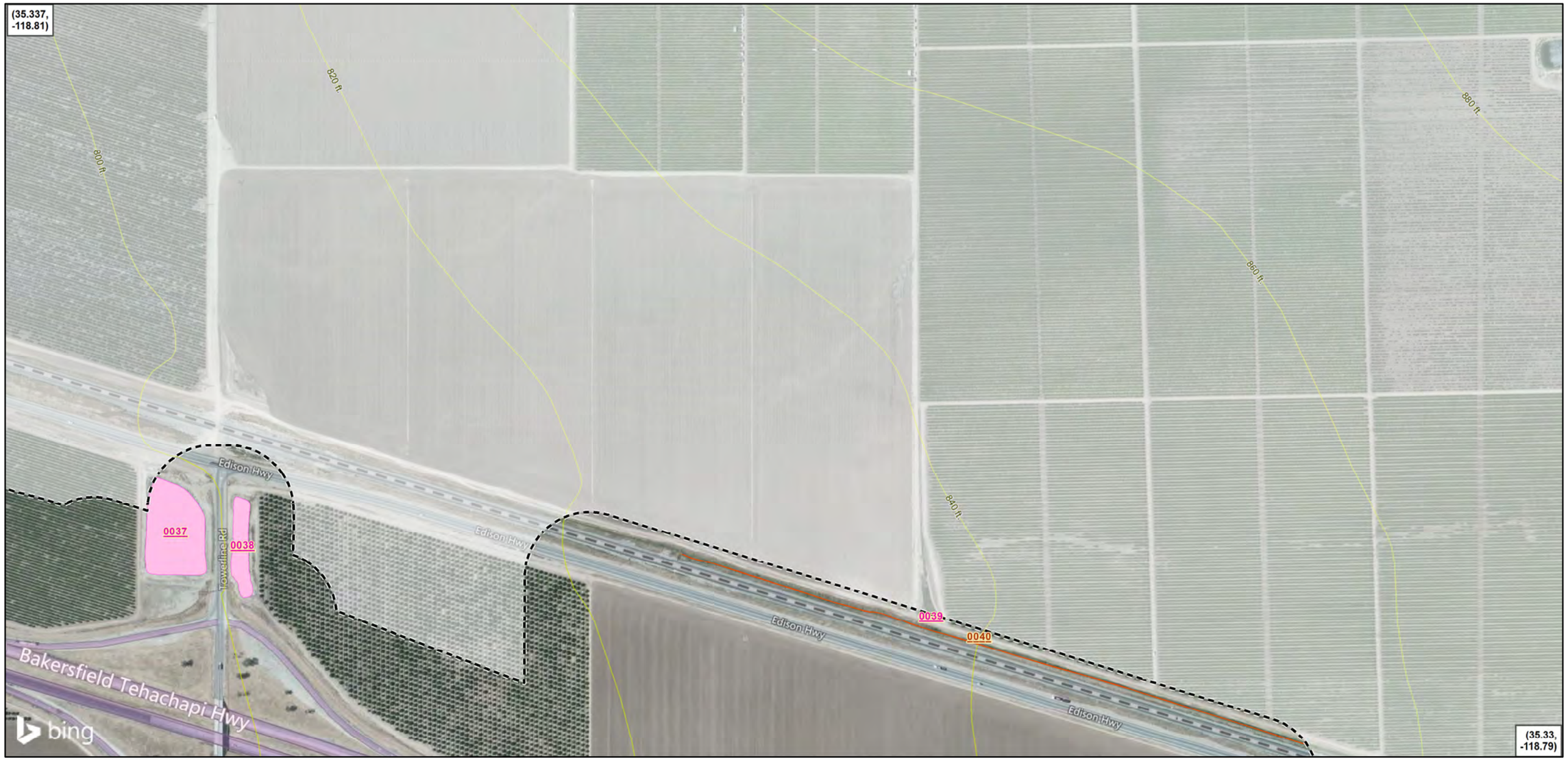


Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

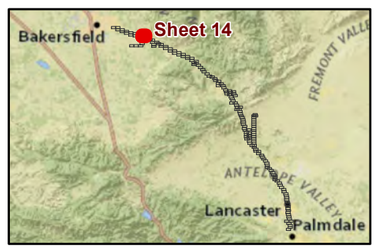
0 60 120
Meters

1 inch = 400 feet

Ditch
Basin
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

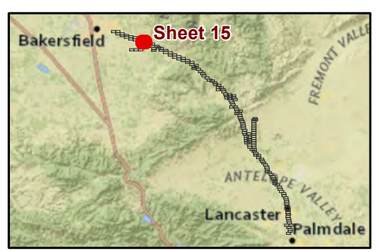
0 60 120
Meters

1 inch = 400 feet

Basin
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

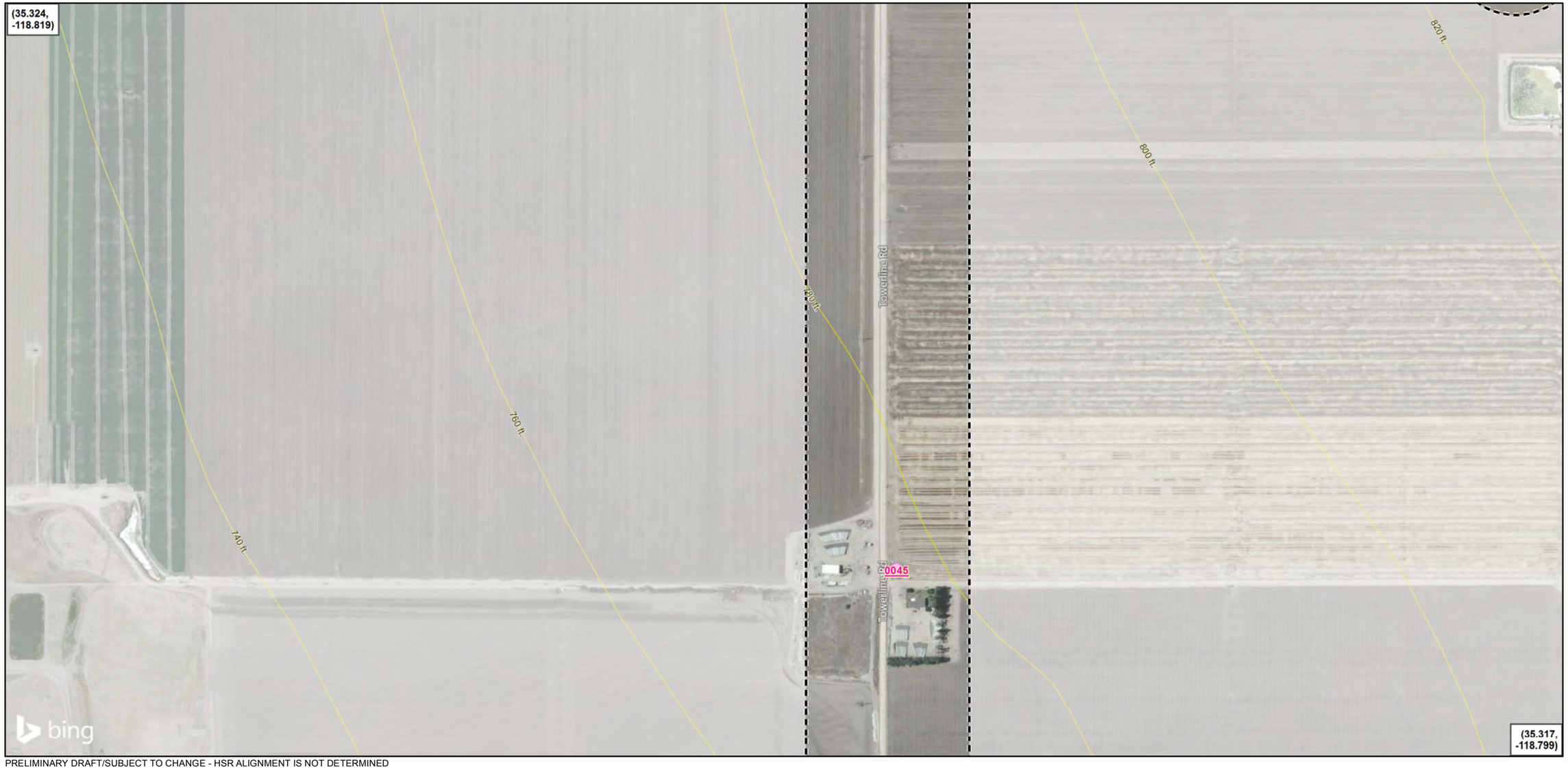
Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Basin
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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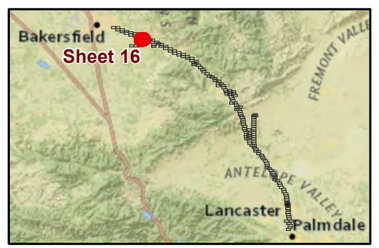
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

November 3, 2016

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

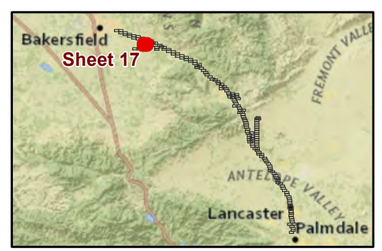
Basin

Aquatic Resources Study Area
(Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

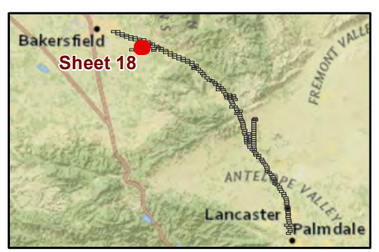
Basin

Aquatic Resources Study Area
(Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

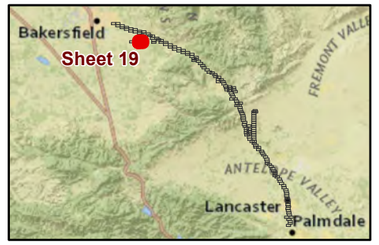
Basin

Aquatic Resources Study Area
(Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Basin

Aquatic Resources Study Area
(Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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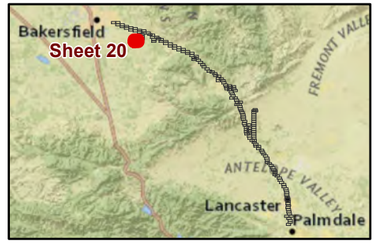
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Canal
Basin
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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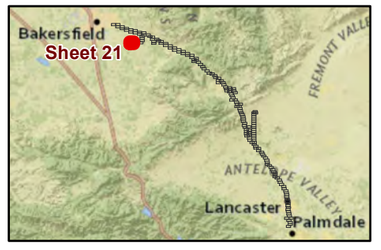
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ditch
Basin
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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Vertical Datum: NAVD88, U.S. Feet

Aquatic Resources

Study Area for Bakersfield to Palmdale

Table F-1 Jurisdictional Delineation Dimensions

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
1	Basin	perennial - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0001	0.008	1	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
2	Canal	perennial	n/a	n/a	n/a	30	EastSideCanal_0002-001	0.09	1, 2	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
							EastSideCanal_0002-002	0.22		
							EastSideCanal_0002-003	1.35		
							EastSideCanal_0002-004	0.17		
							EastSideCanal_0002-005	0.19		
							EastSideCanal_0002-006	0.66		
							EastSideCanal_0002-007	0.11		
3	Ditch	ephemeral	n/a	n/a	n/a	1	Ditch_0003	0.02	1	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
4	Ditch	ephemeral	n/a	n/a	n/a	2	Ditch_0004	0.01	1, 2	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
5	Basin	intermittent - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0005	0.82	2	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
6	Ditch	ephemeral	n/a	n/a	n/a	6	Ditch_0006	0.04	2	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
7	Basin	intermittent - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0007	3.47	2, 3	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
8	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Industrial_0008	0.81	3	Kern Island Canal-Frontal Kern Lake Bed (HUC12)

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
9	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Industrial_0009	0.67	3	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
10	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Industrial_0010	0.36	3	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
11	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Industrial_0011	0.28	3	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
12	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Industrial_0012	0.3	3	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
13	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Industrial_0013	0.33	3	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
14	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Industrial_0014	0.23	3	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
15	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Industrial_0015	0.09	3	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
16	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0016	0.05	3	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
17	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0017	0.01	3	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
18	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0018	0.04	3	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
19	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0019	0.05	3	Kern Island Canal-Frontal Kern Lake Bed (HUC12)

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
20	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0020	0.005	3	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
21	Basin	intermittent - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0021	0.12	4	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
22	Basin	perennial	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0022	0.08	4	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
23	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0023	0.05	6	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
24	Basin	intermittent - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0024	1.15	6	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
25	Basin	intermittent - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0025	0.89	6, 7	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
26	Basin	perennial - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0026	0.65	8	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
27	Basin	perennial - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0027	0.04	8	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
28	Ditch	ephemeral	n/a	n/a	n/a	1	Ditch_0028-001	0.001	8	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
							Ditch_0028-002	0.0008		
29	Ditch	ephemeral	n/a	n/a	n/a	1	Ditch_0029-001	0.01	8, 10	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
							Ditch_0029-002	0.006		
							Ditch_0029-003	0.007		
30	Basin	perennial	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0030	0.33	9	Kern Island Canal-Frontal Kern Lake Bed (HUC12)

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
31	Basin	intermittent - artificial	Palustrine unconsolidated bottom	PUB	n/a	--	Basin_0031	0.03	11	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
32	Basin	perennial - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0032	1.15	12	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
33	Ditch	intermittent	n/a	n/a	n/a	2	Ditch_0033	0.003	12	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
34	Basin	perennial - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0034	0.65	12	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
35	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0035	0.22	12	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
36	Basin	intermittent - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0036	0.23	13	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
37	Basin	perennial - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0037	1.7	14	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
38	Basin	perennial - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0038	0.52	14	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
39	Basin	perennial - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0039	0.02	14	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
40	Ditch	intermittent	n/a	n/a	n/a	4	Ditch_0040-001	0.23	14, 15, 22	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
							Ditch_0040-002	0.008		
41	Basin	perennial	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0041	0.21	15	Kern Island Canal-Frontal Kern Lake Bed (HUC12)

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
42	Basin	intermittent - artificial	Palustrine unconsolidated bottom	PUB	n/a	--	Basin_0042	0.04	15	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
43	Basin	perennial - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0043	0.96	15, 22	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
44	Basin	intermittent - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0044	0.66	15, 22	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
45	Basin	intermittent - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0045	0.05	16	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
46	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0046	0.06	17	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
47	Basin	perennial	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0047	0.63	18	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
48	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0048	0.12	19	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
49	Basin	intermittent - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0049	1.57	19	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
50	Basin	perennial	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0050	0.7	19	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
51	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0051	0.31	20	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
52	Basin	perennial	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0052	0.5	20	Kern Island Canal-Frontal Kern Lake Bed (HUC12)

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
53	Basin	intermittent - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0053	0.18	20	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
54	Basin	intermittent - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0054	0.68	20	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
55	Basin	intermittent - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0055	0.68	21	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
56	Canal	perennial	n/a	n/a	n/a	30	ArvinEdisonCanal_0056-001	0.17	21	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
							ArvinEdisonCanal_0056-002	0.34		
57	Basin	intermittent - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0057	0.66	21	Kern Island Canal-Frontal Kern Lake Bed (HUC12)
58	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0058	0.18	21	Kern Island Canal-Frontal Kern Lake Bed (HUC12)

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): January 27, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District, California High-Speed Rail, Bakersfield to Palmdale Section, SPL-2010-00945

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **California** County/parish/borough: **Kern** City:
Center coordinates of site (lat/long in degree decimal format): Lat. **35.245201°**, Long. **-118.577313°**
Universal Transverse Mercator: **11 356492.16 3901375.56**
Name of nearest waterbody: **Caliente Creek**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **N/A**
Name of watershed or Hydrologic Unit Code (HUC): **Middle Kern-Upper Tehachapi-Grapevine, 18030003**
☒ 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: **Waters within the boundary of the Sacramento District are split into two review areas, waters within the Caliente Creek watershed and waters within the San Joaquin Valley west of Caliente Creek. The projects extends into Los Angeles District and waters within this area are being evaluated separately.**

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

☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): **July 18, 2016**

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 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: 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: **The 4,674-acre review area includes approximately 42.96 acres of waters, consisting of approximately 14.51 acres of basins, 0.71 acre of instream impoundments, 0.02 acre of desert wash, 14.61 acres of ephemeral streams, 11.7 acres of intermittent streams, 0.80 acre of perennial streams, and 0.61 acre of seasonal wetlands. The linear review area parallels and crosses Tehachapi Creek, a tributary to Caliente**

[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.

Creek, at multiple locations. Named waterways within the review area include Caliente Creek, Clear Creek, and Tweedy Creek. The remaining features are tributary to these waters.

Tehachapi Creek starts approximately 3.36 miles upstream of the review area and flows parallel to the review area, entering and exiting it multiple times. There is approximately 9.08 acres of Tehachapi Creek within the review area, identified as an intermittent stream. Tehachapi Creek flows approximately 17.17 miles from the point is first crosses the review area to the point where it enters Caliente Creek.

Tweedy Creek starts approximately 8.26 miles upstream of the review area then continues 0.93 miles to Tehachapi Creek. Clear Creek starts approximately 4.41 miles upstream of the review area then continues 2.95 miles to Tehachapi Creek. There are approximately 0.85 acre and 0.80 acre present within the review area respectively. Tweedy Creek was identified as an intermittent stream while Clear Creek was identified as a perennial stream.

Caliente Creek starts approximately 25.74 miles upstream of Tehachapi Creek then continues an additional 10.19 miles to the point where it crosses the review area. Caliente Creek continues 7.20 miles to its terminus at Malaga Road. There is approximately 4.14 acres of Caliente Creek within the review area, identified as an ephemeral stream.

Two approved jurisdictional determinations were made on December 11, 2014 (SPK-2009-00116 and SPK-2014-00236) for waters tributary to Tehachapi Creek and Caliente Creek. Both determinations found Caliente Creek to an intrastate isolated water and non-jurisdictional under Section 404 of the CWA. The conditions within the Caliente Creek watershed have not changed since this determinations were made.

On May 8, 2014, a site visit was conducted to determine whether there is a hydrologic connection from the terminus of Caliente Creek at Malaga Road to wetlands adjacent to East Side Canal. Based on the attached site photographs, there are no ditches along either side of Malaga Road, Mountain View Road, or Edison Road, to convey normal flows from Caliente Creek. In addition, no culverts or pipes were found at the terminus of Caliente Creek with Malaga Road to convey normal flows underground. Based on the enclosed newspaper articles, a storm drain system, including detention basins, have been constructed along Caliente Creek. In addition, as shown on the enclosed FEMA flood maps, during a 100-year flood event, the area surrounding Caliente Creek may be subject to flood depth of 1-3 feet.

The following information regarding the flows through the flood control system and historic floods comes from personal communication with Aaron Leicht, Supervising Engineer Flood/Drainage/Grading, Kern County, on October 29, 2014. In approximately the 10-year event, flood waters reach Malaga Road and split approximately 50/50 to the north and south. Flows follow Malaga Road to north to Mountain View Road and to the south to Panama Road. The flows then turn west along these roads and continue to the East Side Canal. Several detention basins are constructed along the East Side Canal to hold the flood waters. The flood control system is designed to keep flood waters from entering either the Arvin Edison Canal or the East Side Canal due to the sediment load that the flood waters carry. These canals carry irrigation water to the south from the Kern River. Water within these canals does not reach a navigable water. During larger events, such as 1976 and 1983, the flood waters exceeded the capacity of the levees and basins, entering the canals and flooding the towns of Lamont and Arvin. Flood waters eventually drained south west to the Kern Lake bed, a dry terminal lake bed.

Based on the above information, we have determined that Caliente Creek is an intrastate isolated water with no apparent interstate or foreign commerce connection. Therefore, the 42.96 acres of waters within the review area, which are hydrologically connected to Caliente Creek through Tehachapi Creek, are intrastate isolated waters with no interstate or foreign commerce connection and therefore are not currently regulated under Section 404 of the Clean Water Act.

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 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: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW[5]:
Tributary stream order, if known:

(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: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck

[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.

☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime:
Other information on duration and volume:

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

Subsurface flow: **Pick List**. 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 ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain:

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

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

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain:
Identify specific pollutants, if known:

(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:
☐ 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

(i) Physical Characteristics:
(a) General Wetland Characteristics:
Properties:
Wetland size: acres

[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.

Wetland type. Explain:
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:

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-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: 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:

[8]See Footnote # 3.

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:
☐ 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.

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

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☒ Non-wetland waters (i.e., rivers, streams): **27.13** acres.
☒ Lakes/ponds: **0.71** acres. List type of aquatic resource: **Instream impoundments**
☒ Other non-wetland waters: **14.51** acres. List type of aquatic resource: **Basins and instream impoundments**
☒ Wetlands: **0.61** acres.

[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.***

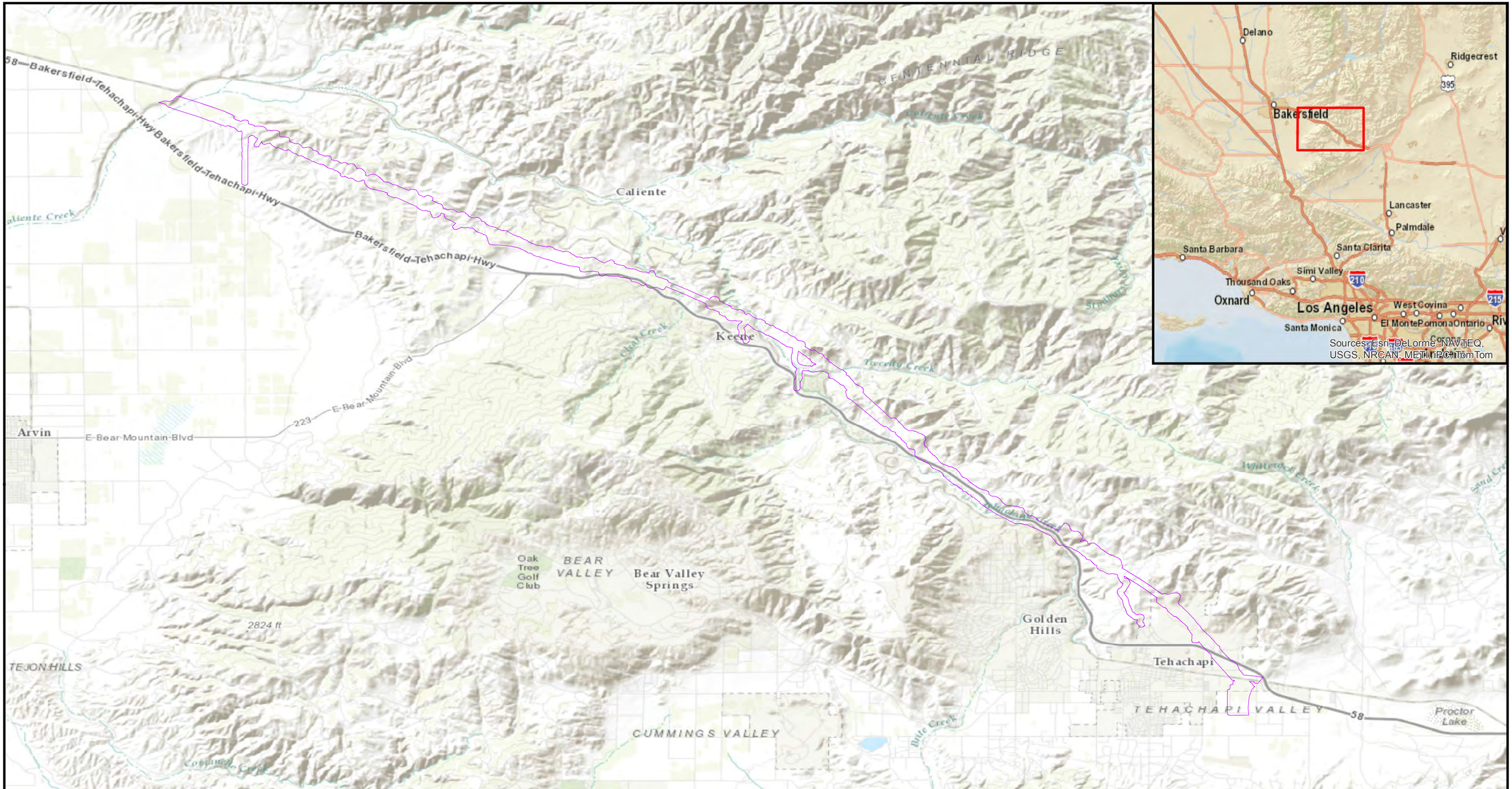
Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, wide.
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **Appendix E: Jurisdictional Delineation Mabook, Aquatic Resources, Study Area for Bakersfield Palmdale, Sheets 24 through 65, 68, and 72 of 171, Dated November 4, 2016**
- ☐ 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:
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24K; CA-Edison, Bena, Oiler Peak, Keene, and Tehachapi North**
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☒ FEMA/FIRM maps: **FIRN Map, Kern County, California, map numbers: 06029C2350E, effective September 26, 2008, and 06029C2325E, effective September 26, 2008**
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☒ Photographs: ☐ Aerial (Name & Date):
  or ☒ Other (Name & Date): **May 8, 2014, site visit photographs taken by Mr. Jamie Robb, USACE**
- ☒ Previous determination(s). File no. and date of response letter: **SPK-2009-00116, dated December 11, 2014, intrastate isolated determination for an ephemeral drainage tributary to Tehachapi Creek. SPK-2014-00236, dated December 11, 2014, intrastate isolated determination for an ephemeral drainage tributary to Caliente Creek. Both determinations found that Caliente Creek is an intrastate isolated water with the interstate or foreign commerce.**
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☒ Other information (please specify): **Newspaper Articles: February 9, 2006, Bakersfield Californian; December 20, 2010, Bakersfield Now; December 21, 2010, Bakersfield Californian.**
  Personal Communication between Aaron Leight, Supercising Engineer Flood/Drainage/Grading, Kern County, and Mr. Zachary Simmons, Senior Project Manager, USACE.

B. ADDITIONAL COMMENTS TO SUPPORT JD:

See Section II(B)(2)



0 0.475 0.95 1.9 2.85 3.8 Miles

Bakersfield to Palmdale Section
California High-Speed Rail
Kern County, Ca
SPL-2010-945
January 30, 2017

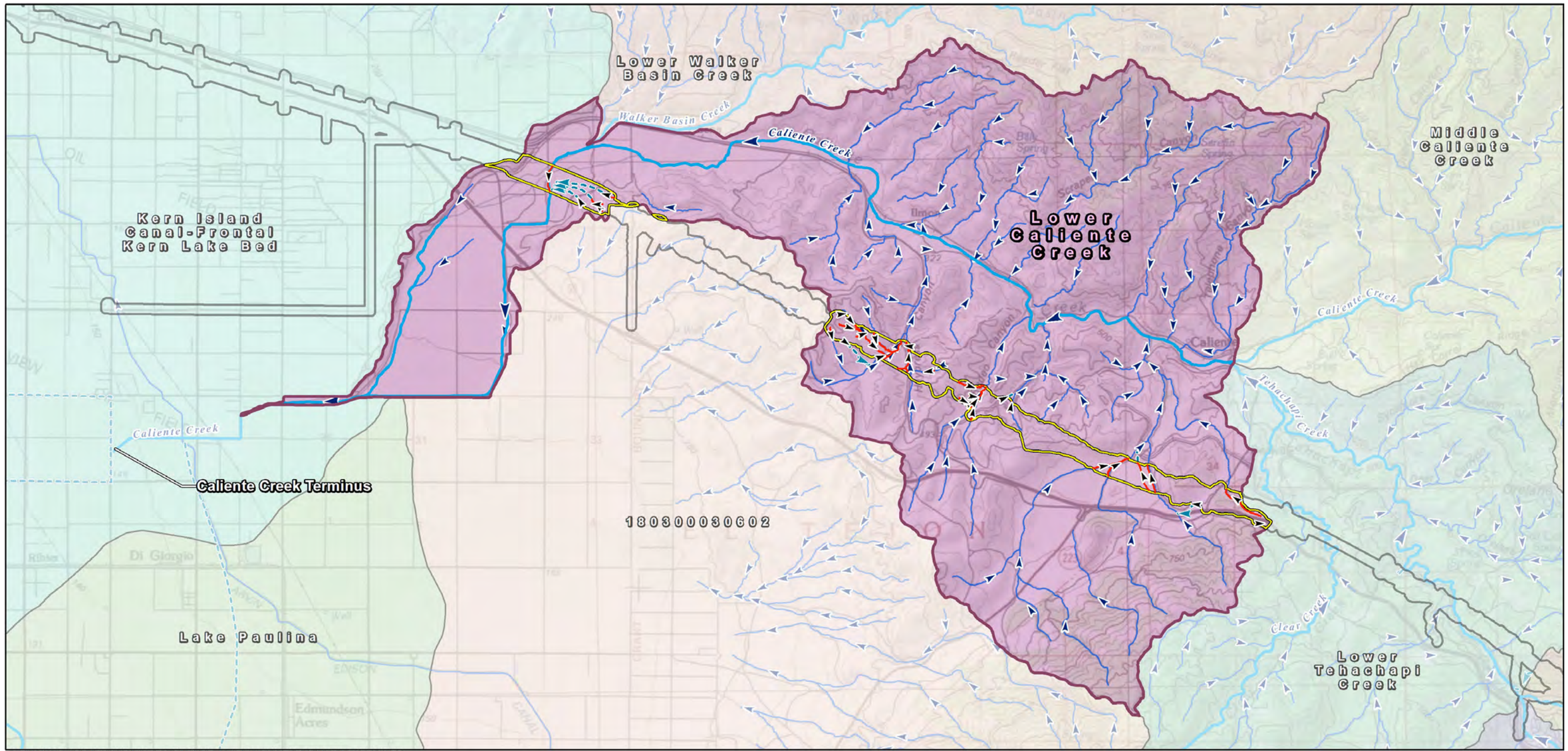
Map Prepared By:
Zachary Simmons
Senior Project Manager
US Army Corps of Engineers
Sacramento District,
Regulatory Division
1325 J Street, Room 1350
Sacramento, California 95814-2922

Legend

Caliente Creek Watershed Study Area

N W E S

Datum: D_North_American_1983



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 14, 2016

N
0 0.5 1
Miles
0 1 2
Kilometers

BP HSR Mapped Streams with OHWM in Lower Caliente Creek Watershed

Ephemeral Stream

Study Area in Lower Caliente Creek Watershed

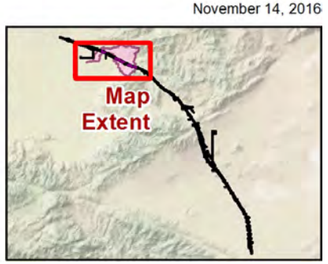
Lower Caliente Creek HUC-12 Watershed

Other HUC-12 Watersheds

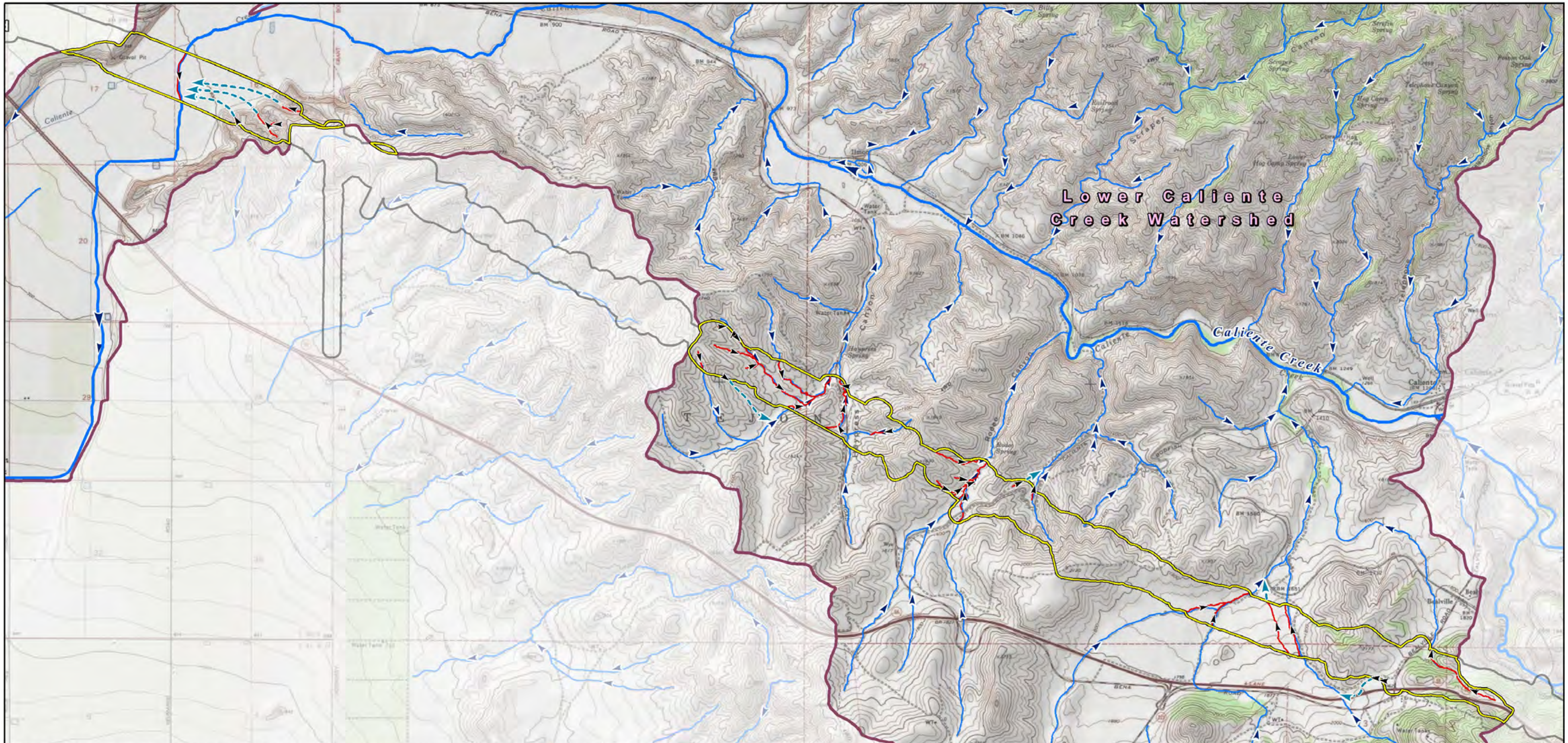
Wetlands Study Area (Project Footprint + 250 ft Buffer)

Direction of flow based on NHD flowlines

Presumed Hydrologic Path



Lower Caliente Creek Watershed Hydrologic Connectivity



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SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 14, 2016

N

0 0.25 0.5 Miles

0 0.5 1 Kilometers

BP HSR Mapped Streams with OHWM in Lower Caliente Creek Watershed

Ephemeral Stream

Study Area in Lower Caliente Creek Watershed

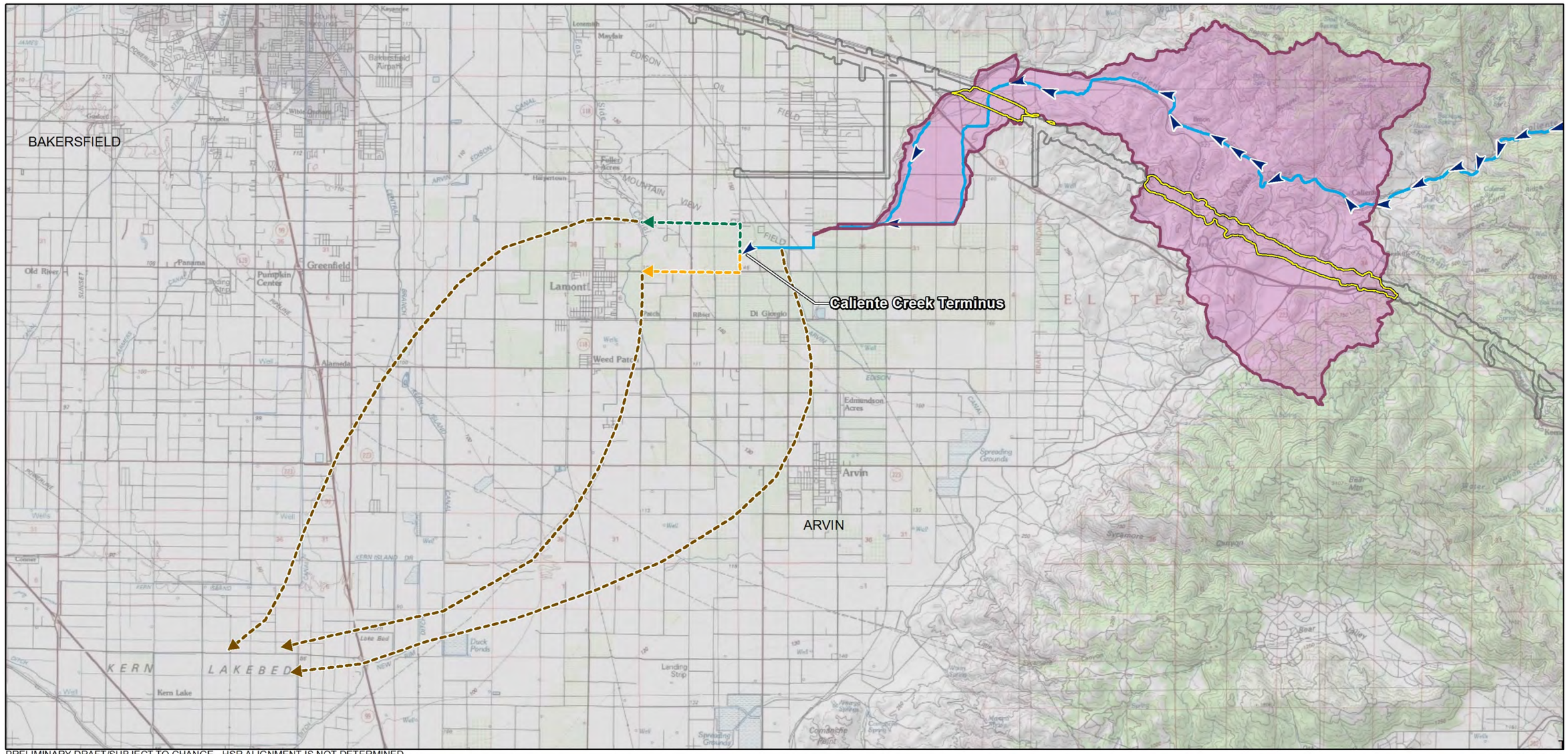
Lower Caliente Creek HUC-12 Watershed

Wetlands Study Area (Project Footprint + 250 ft Buffer)

Direction of flow based on NHD flowlines

Presumed Hydrologic Path

Lower Caliente Creek Watershed Study Area
Hydrologic Connectivity



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

October 21, 2016

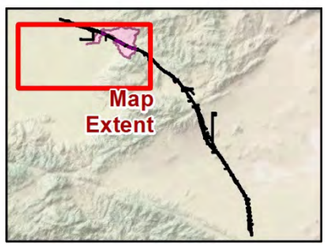
N
0 1 2 Miles
0 2 4 Kilometers

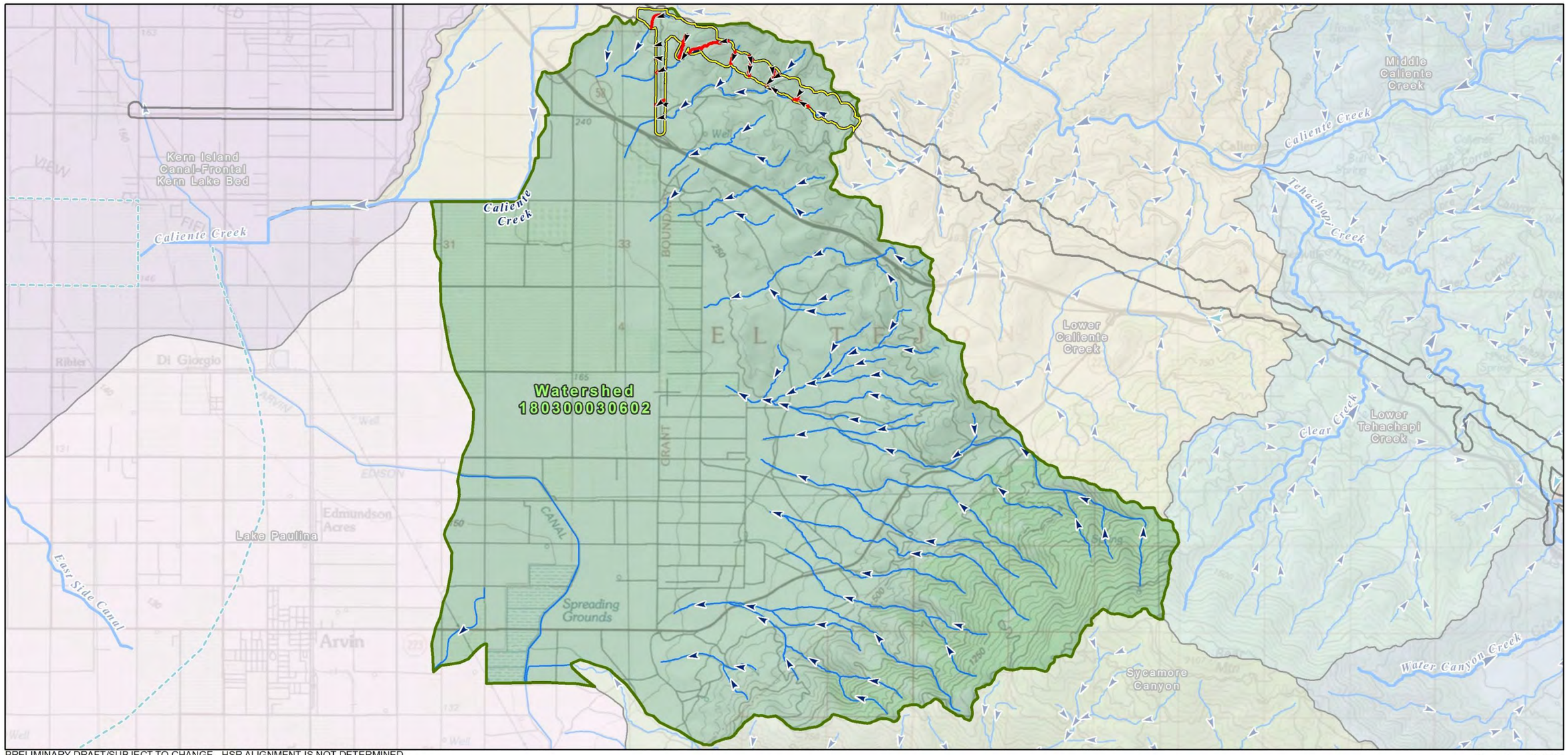
- Study Area in Lower Caliente Creek Watershed
- Lower Caliente Creek HUC-12 Watershed
- Wetlands Study Area (Project Footprint + 250 ft Buffer)
- Caliente Creek

Overland Flood Flows

- North to Mountain View Rd
- Overland Flows to Kern Lake Bed
- South to Las Palmas Rd

Lower Caliente Creek Watershed Receiving Waters





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SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 16, 2016

N

0 1 2
Miles
0 1.5 3
Kilometers

BP HSR Mapped Streams with OHWM in Watershed 180300030602 Study Area

Ephemeral Stream

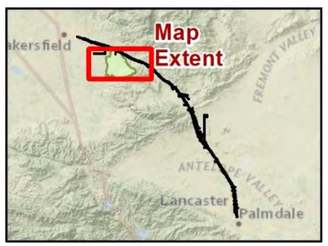
Study Area in Watershed 180300030602

HUC-12 Watershed 180300030602

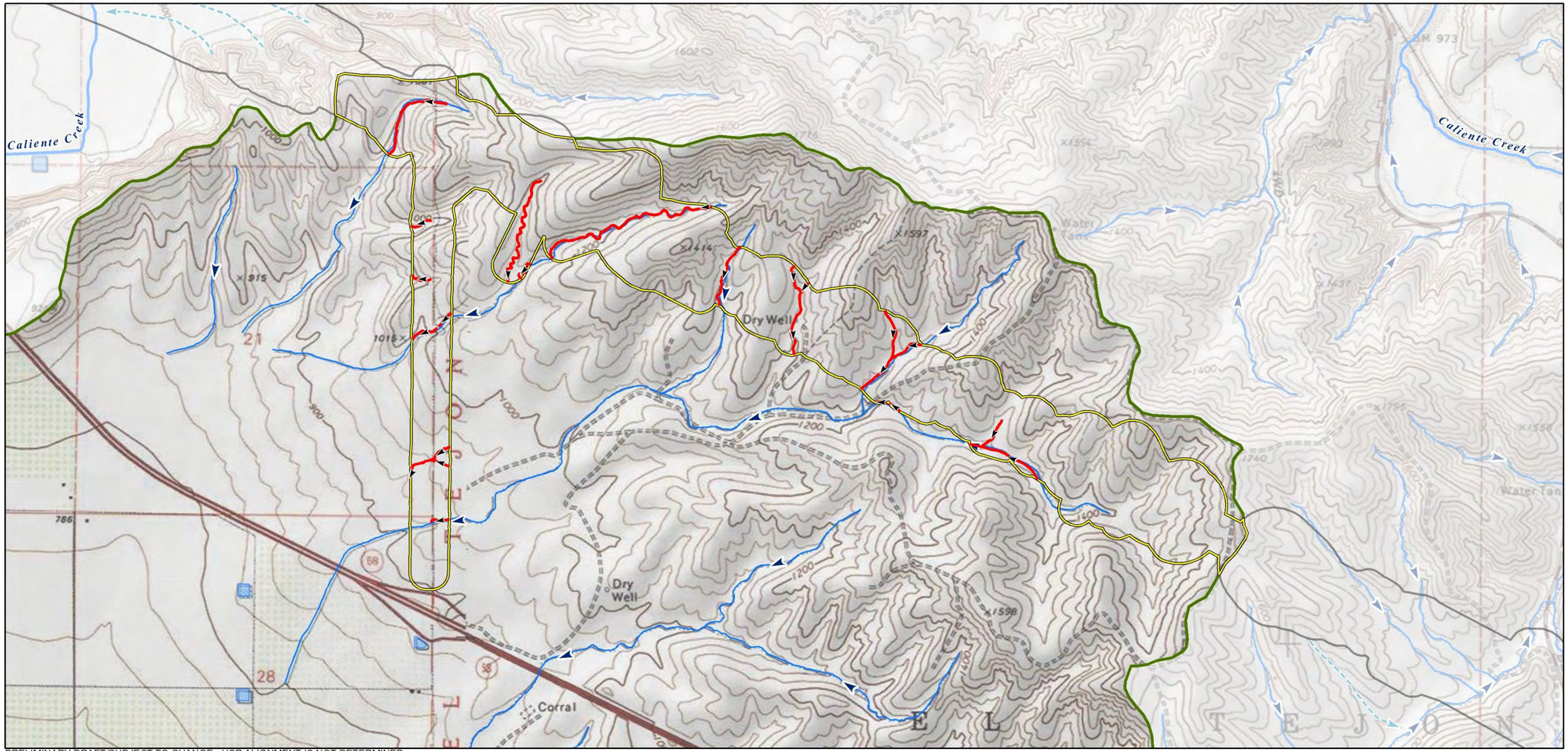
Other HUC-12 Watersheds

Wetlands Study Area (Project Footprint + 250 ft Buffer)

Direction of flow based on NHD flowlines



Watershed 180300030602 Hydrologic Connectivity



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 16, 2016

N

0 0.25 0.5
Miles

0 0.5 1
Kilometers

BP HSR Mapped Streams with OHWM in Watershed 180300030602 Study Area

Ephemeral Stream

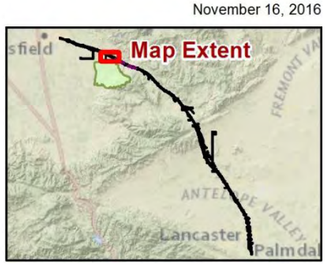
Study Area in Watershed 180300030602

HUC-12 Watershed 180300030602

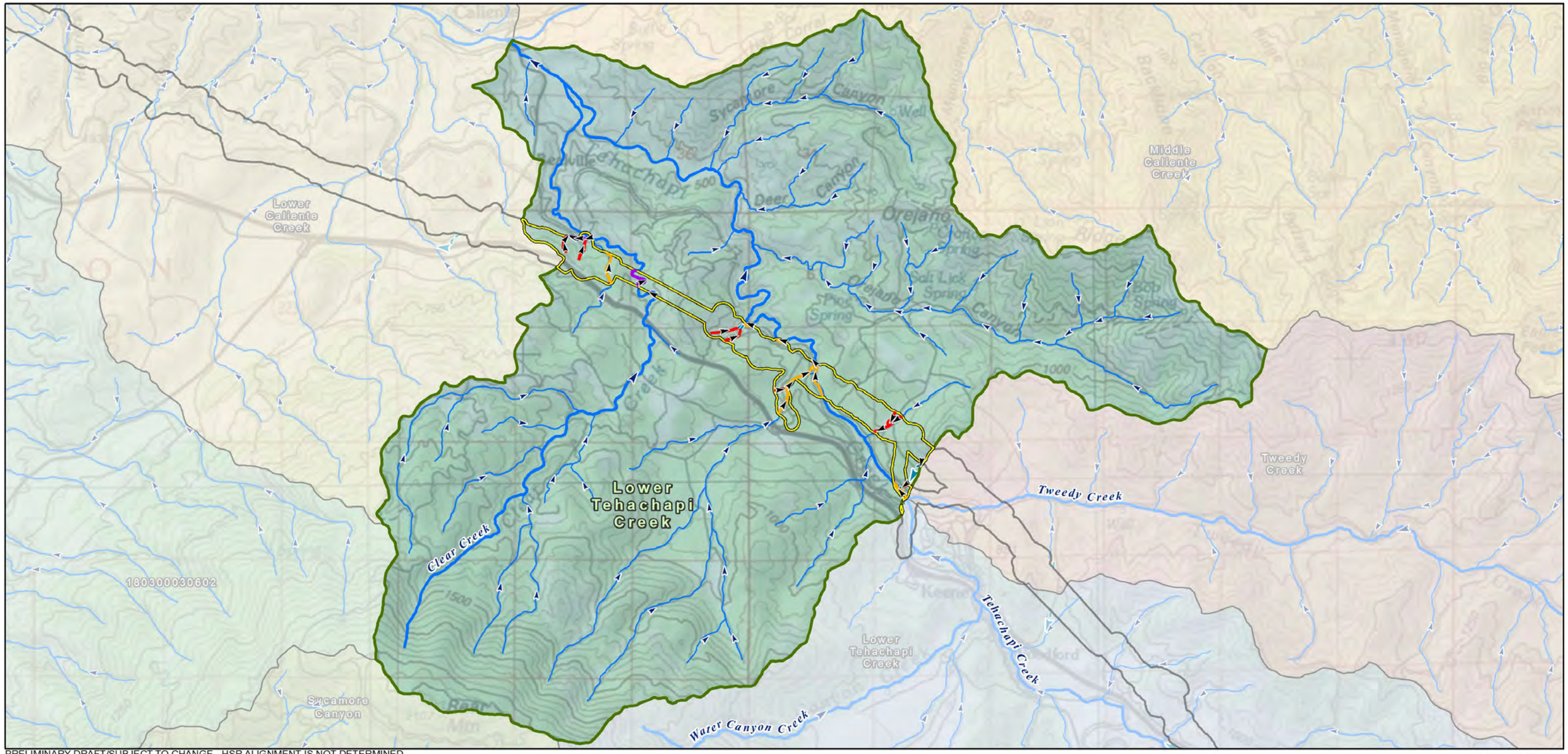
Wetlands Study Area (Project Footprint + 250 ft Buffer)

Direction of flow based on NHD flowlines

NHD Waterbodies



Watershed 180300030602 Study Area
Hydrologic Connectivity



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 14, 2016

N

0 0.5 1 Miles

0 1 2 Kilometers

BP HSR Mapped Streams with OHWM in Lower Tehachapi Creek Watershed Study Area

- Culvert
- Ephemeral Stream
- Perennial Stream
- Intermittent Stream

- Study Area in the Lower Tehachapi Creek Watershed
- Lower Tehachapi Creek HUC-12 Watershed
- Other HUC-12 Watersheds

- Wetlands Study Area (Project Footprint + 250 ft Buffer)
- Direction of flow based on NHD flowlines
- Presumed Hydrologic Path

Lower Tehachapi Creek Watershed Hydrologic Connectivity

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED

SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 14, 2016

N

0 0.25 0.5 Miles

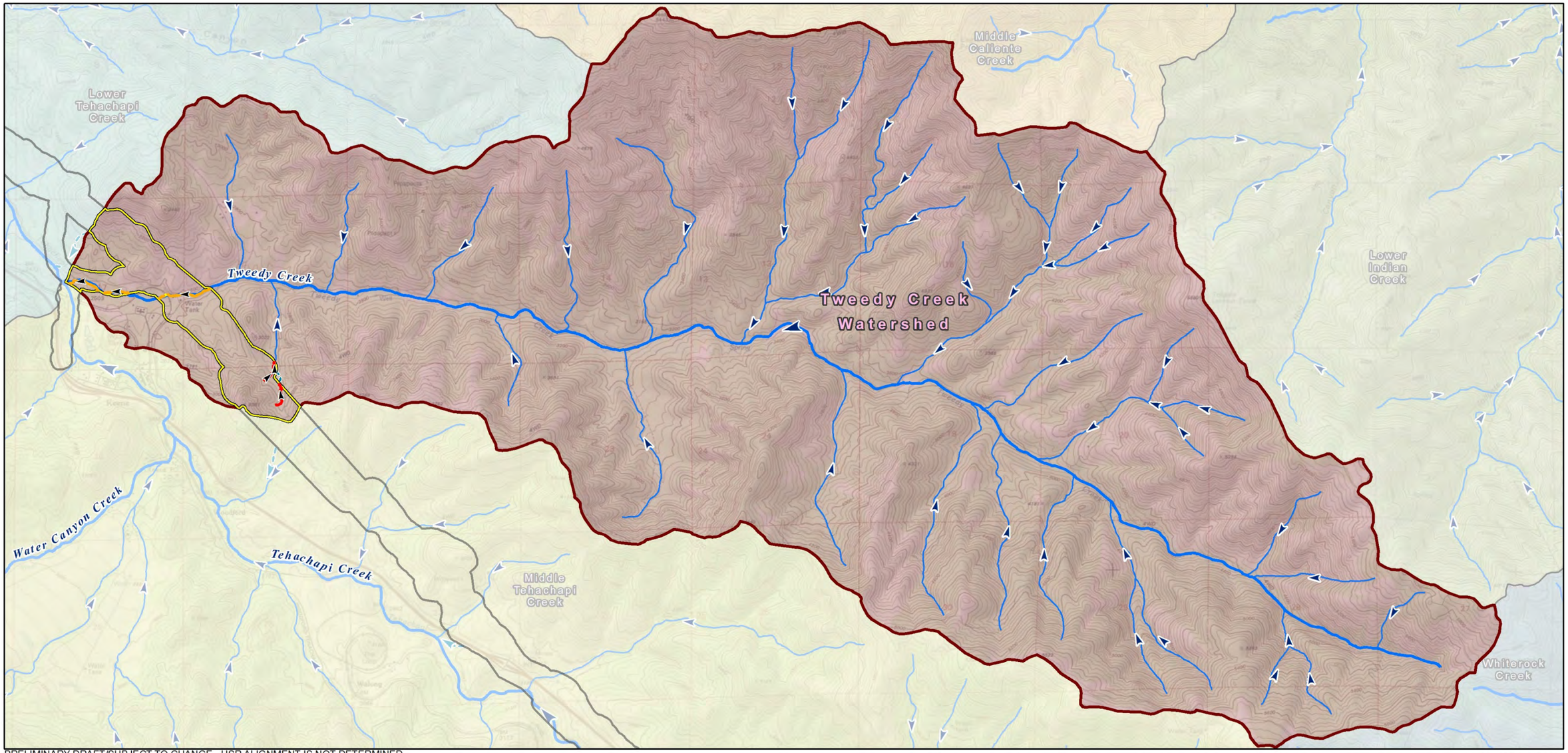
0 0.5 1 Kilometers

BP HSR Mapped Streams with OHWM in Lower Tehachapi Creek Watershed Study Area

- Culvert
- Ephemeral Stream
- Perennial Stream
- Intermittent Stream

- Study Area in Lower Tehachapi Creek Watershed
- Lower Tehachapi Creek HUC-12 Watershed
- Wetlands Study Area (Project Footprint + 250 ft Buffer)
- Direction of flow based on NHD flowlines
- Presumed Hydrologic Path

Lower Tehachapi Creek Watershed Study Area Hydrologic Connectivity



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SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 18, 2016

N

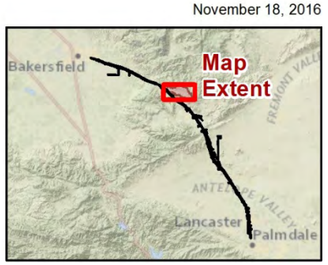
0 0.25 0.5
Miles
0 0.5 1
Kilometers

BP HSR Mapped Streams with OHWM in Tweedy Creek Watershed Study Area

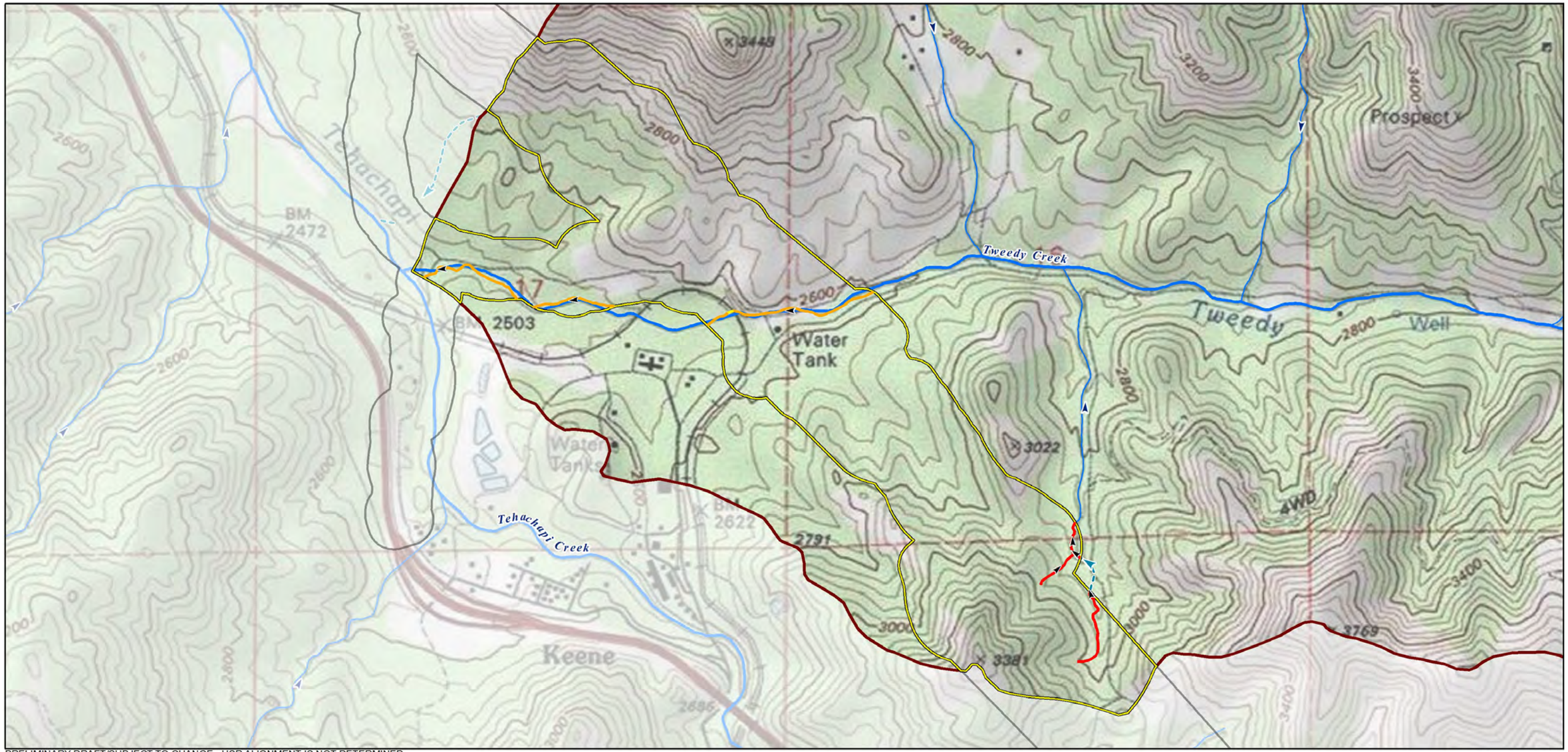
- Culvert
- Ephemeral Stream
- Intermittent Stream

- Study Area in the Tweedy Creek Watershed
- Study Area in the Tweedy Creek Watershed
- Other HUC-12 Watersheds

- Wetlands Study Area (Project Footprint + 250 ft Buffer)
- Direction of flow based on NHD flowlines
- Presumed Hydrologic Path



Tweedy Creek Watershed Hydrologic Connectivity



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 14, 2016

N

0 800 1,600
Feet

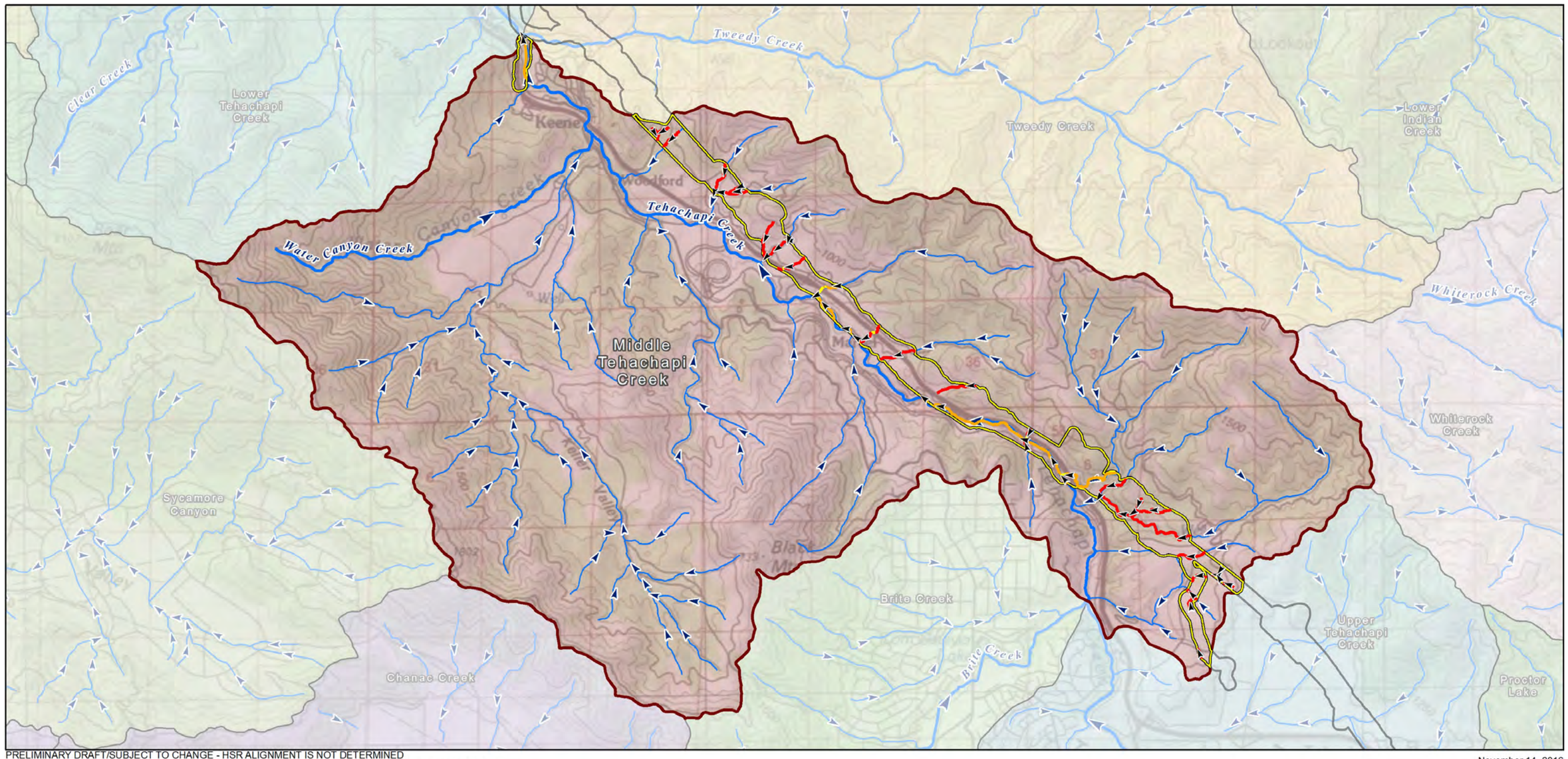
0 300 600
Meters

BP HSR Mapped Streams with OHWM in Tweedy Creek Watershed Study Area

- Culvert
- Ephemeral Stream
- Intermittent Stream

- Study Area in Tweedy Creek Watershed
- Tweedy Creek Watershed HUC-12
- Wetlands Study Area (Project Footprint + 250 ft Buffer)
- Direction of flow based on NHD flowlines
- Presumed Hydrologic Path

Tweedy Creek Watershed
Study Area Hydrologic Connectivity



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

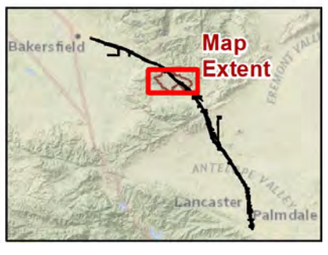
November 14, 2016

N
0 0.5 1 Miles
0 1 2 Kilometers

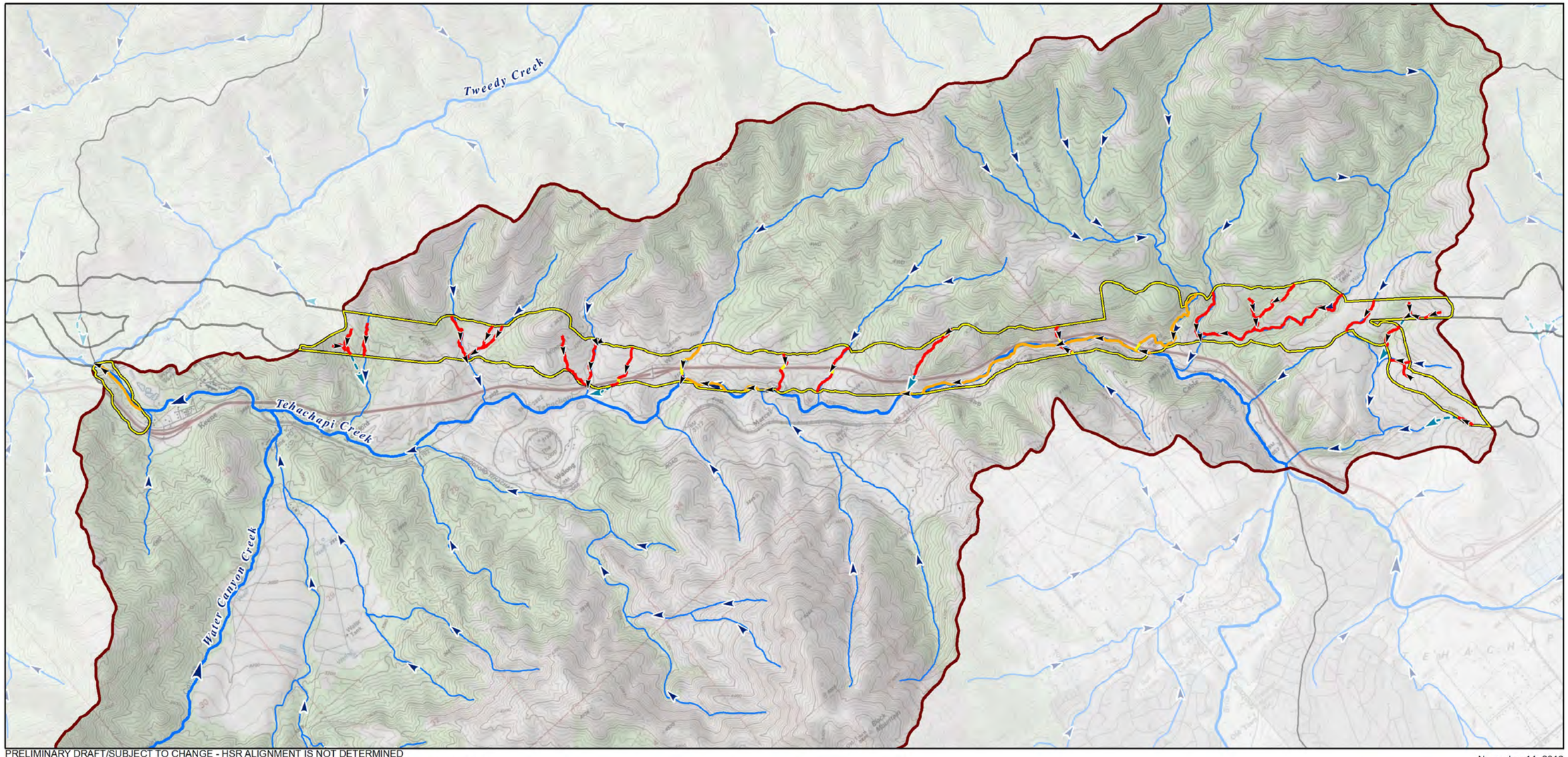
BP HSR Mapped Streams with OHWM in Middle Tehachapi Creek Watershed Study Area

- Culvert
- Ephemeral Stream
- Intermittent Stream

- Study Area in the Middle Tehachapi Creek Watershed
- Middle Tehachapi Creek Watershed HUC-12
- Other HUC-12 Watersheds
- Wetlands Study Area (Project Footprint + 250 ft Buffer)
- Direction of flow based on NHD flowlines
- Presumed Hydrologic Path



Middle Tehachapi Creek Watershed Hydrologic Connectivity



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 14, 2016

N

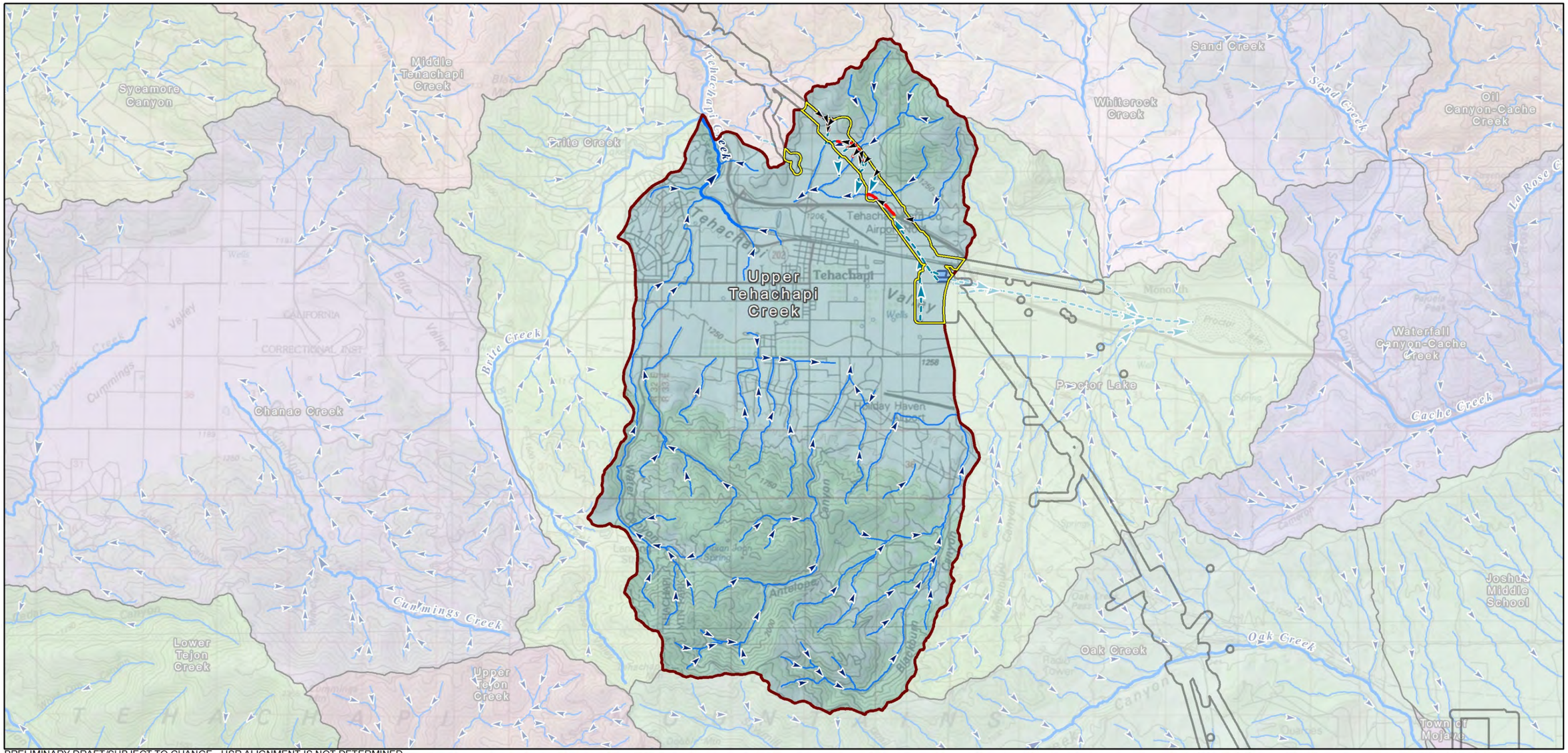
0 0.3 0.6
Miles
0 0.5 1
Kilometers

BP HSR Mapped Streams with OHWM in Middle Tehachapi Creek Watershed Study Area

- Culvert
- Ephemeral Stream
- Intermittent Stream

- Study Area in the Middle Tehachapi Creek Watershed
- Middle Tehachapi Creek Watershed HUC-12
- Wetlands Study Area (Project Footprint + 250 ft Buffer)
- Direction of flow based on NHD flowlines
- Presumed Hydrologic Path

Middle Tehachapi Creek Watershed Study Area Hydrologic Connectivity



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 22, 2016

N

0 0.5 1 Miles

0 1 2 Kilometers

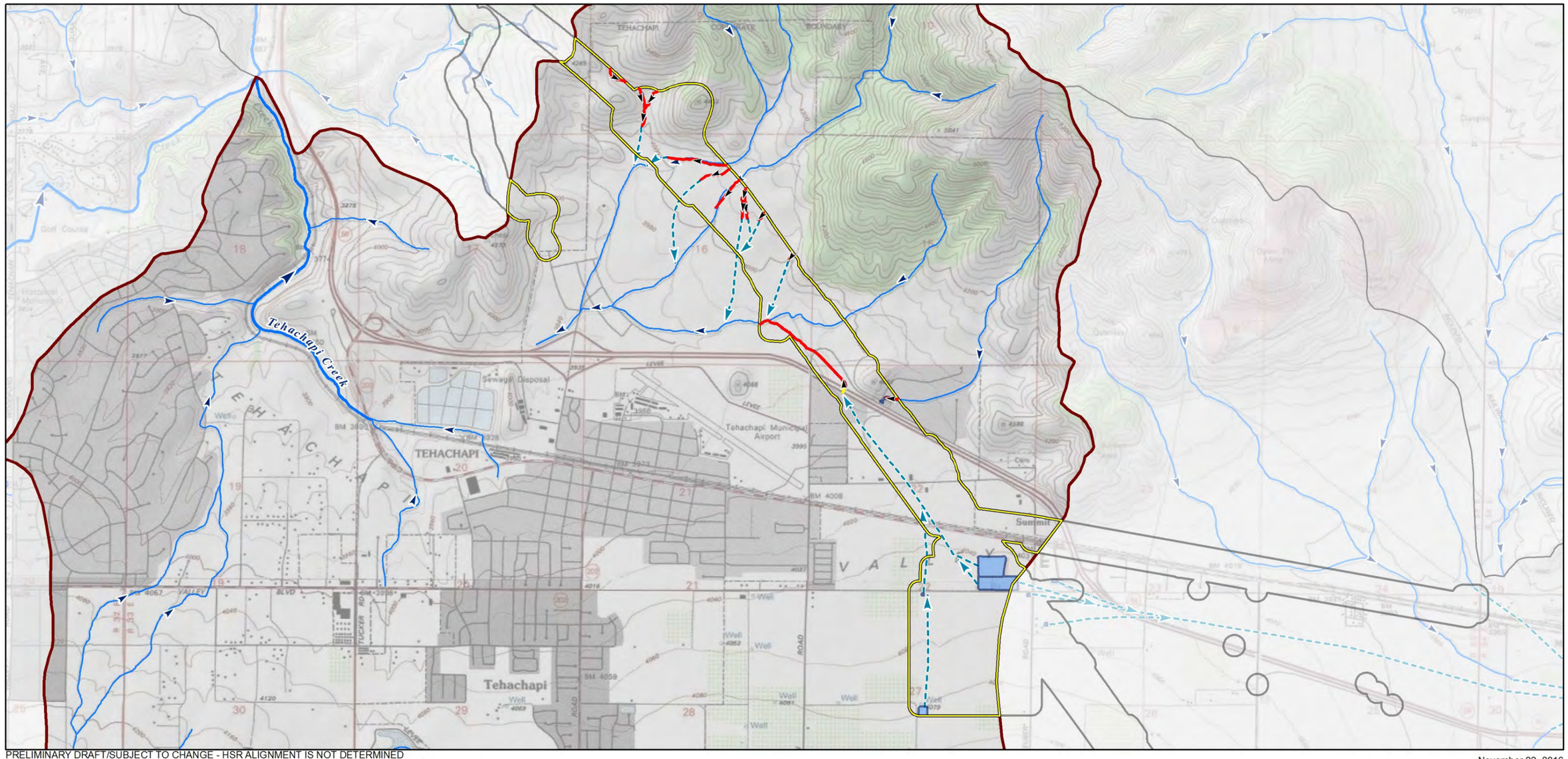
BP HSR Mapped Streams with OHWM in Upper Tehachapi Creek Watershed Study Area

- Culvert
- Ephemeral Stream

- Study Area in the Upper Tehachapi Creek Watershed
- Upper Tehachapi Creek Watershed HUC-12
- Other HUC-12 Watersheds
- Basins

- Wetlands Study Area (Project Footprint + 250 ft Buffer)
- Direction of flow based on NHD flowlines
- Presumed Hydrologic Path

Upper Tehachapi Creek Watershed Hydrologic Connectivity



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 22, 2016

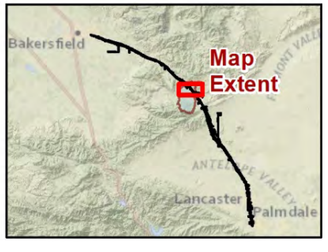
N

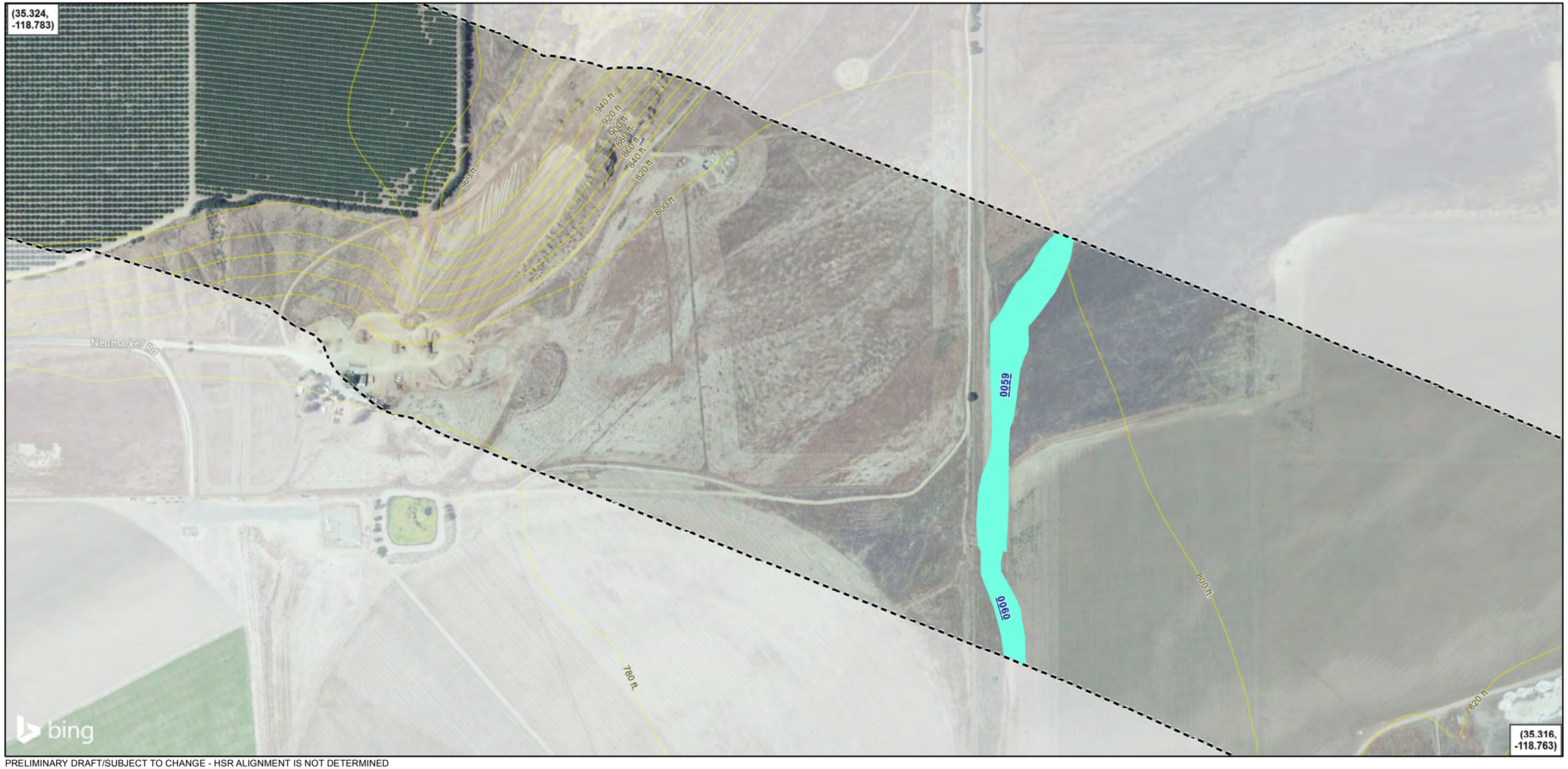
0 0.2 0.4 Miles
0 0.4 0.8 Kilometers

BP HSR Mapped Streams with OHWM in Upper Tehachapi Creek Watershed Study Area

- Culvert
- Ephemeral Stream
- Study Area in the Upper Tehachapi Creek Watershed
- Upper Tehachapi Creek Watershed HUC-12
- Basins
- Wetlands Study Area (Project Footprint + 250 ft Buffer)
- Direction of flow based on NHD flowlines
- Presumed Hydrologic Path

Upper Tehachapi Creek Watershed Study Area Hydrologic Connectivity





PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

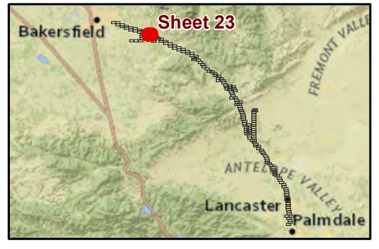
Ephemeral Stream

Aquatic Resources Study Area
(Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream
In-Stream Basin
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet

Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

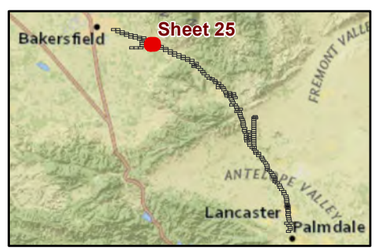
Ephemeral Stream

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

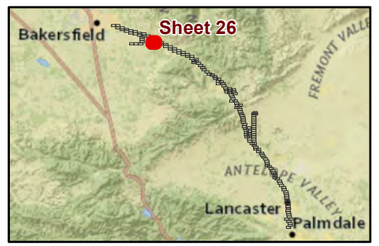
Ephemeral Stream

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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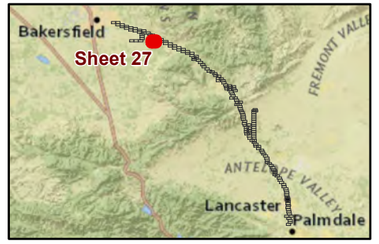
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

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SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

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Ephemeral Stream
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
OHWM Data Point
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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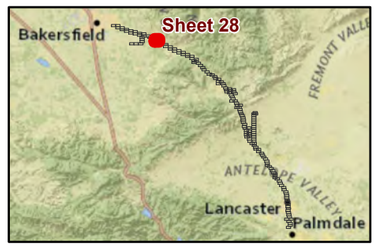
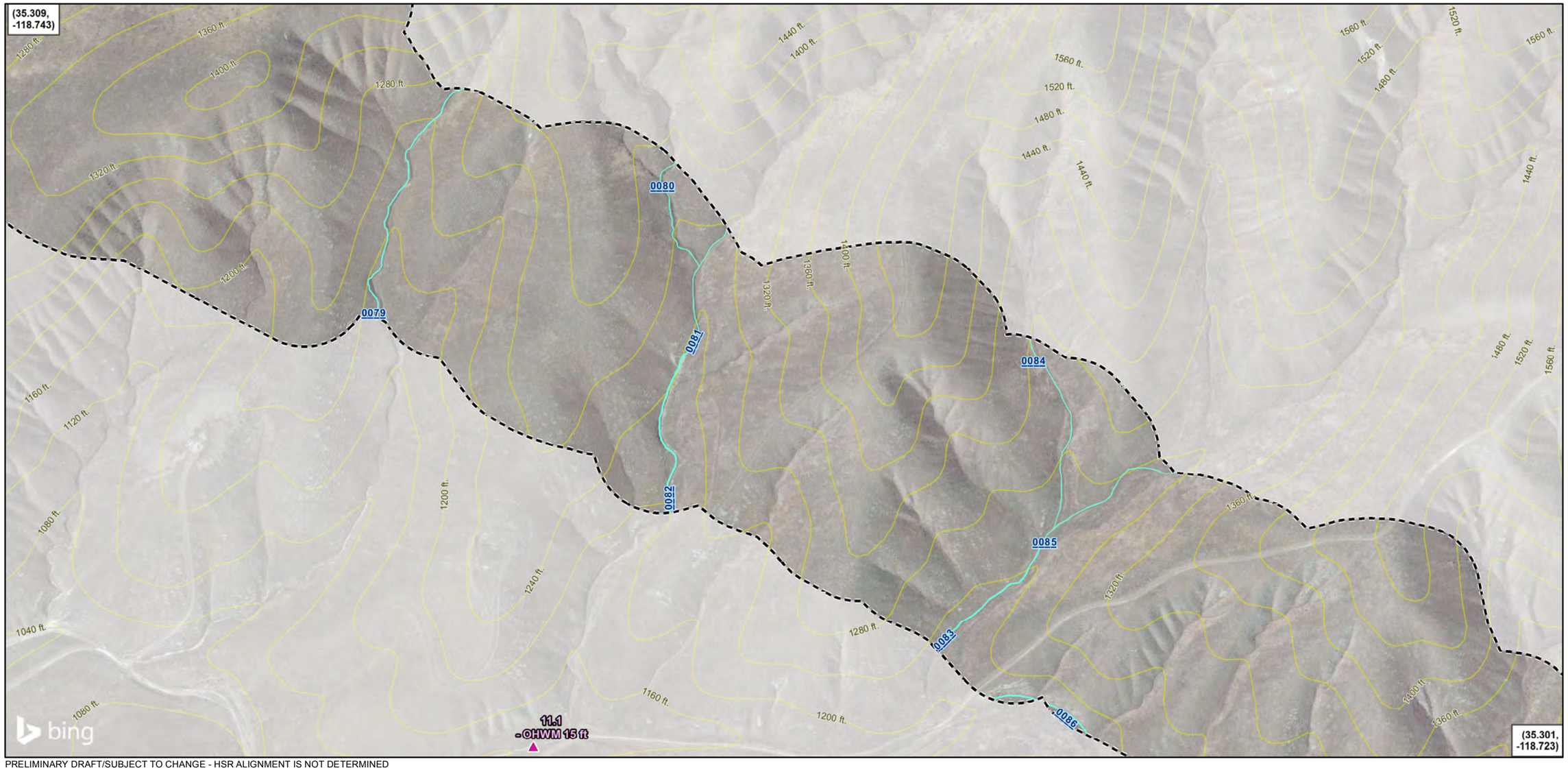
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

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Feet

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Meters

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Ephemeral Stream

Aquatic Resources Study Area
(Project Footprint +250 ft Buffer)

OHWM Data Point

Elevation Contour

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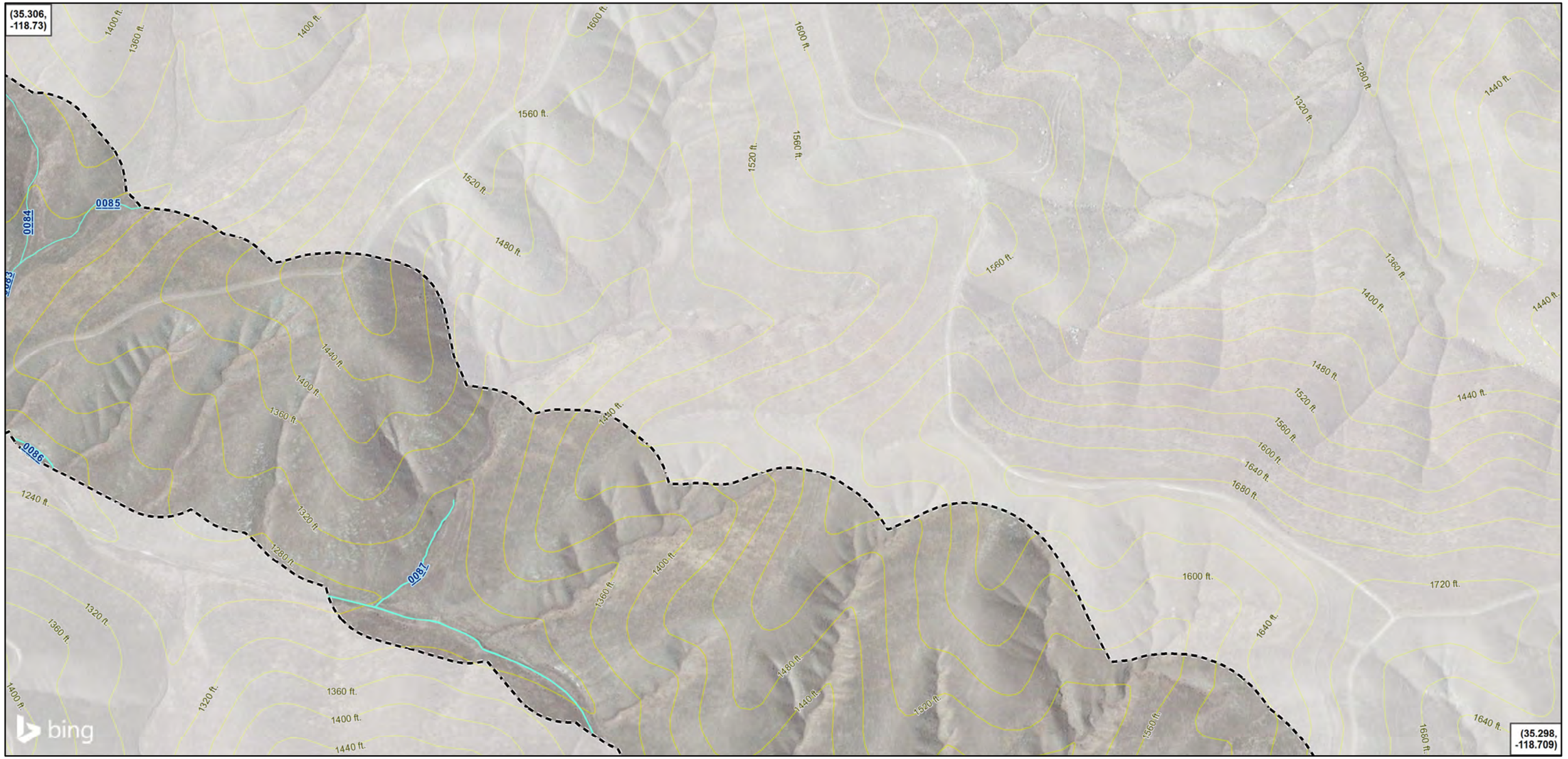
Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

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Meters

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Ephemeral Stream

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Elevation Contour

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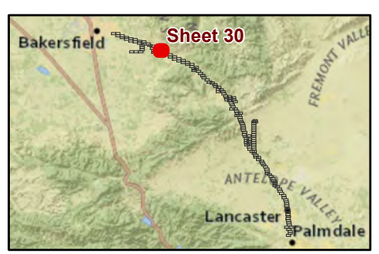
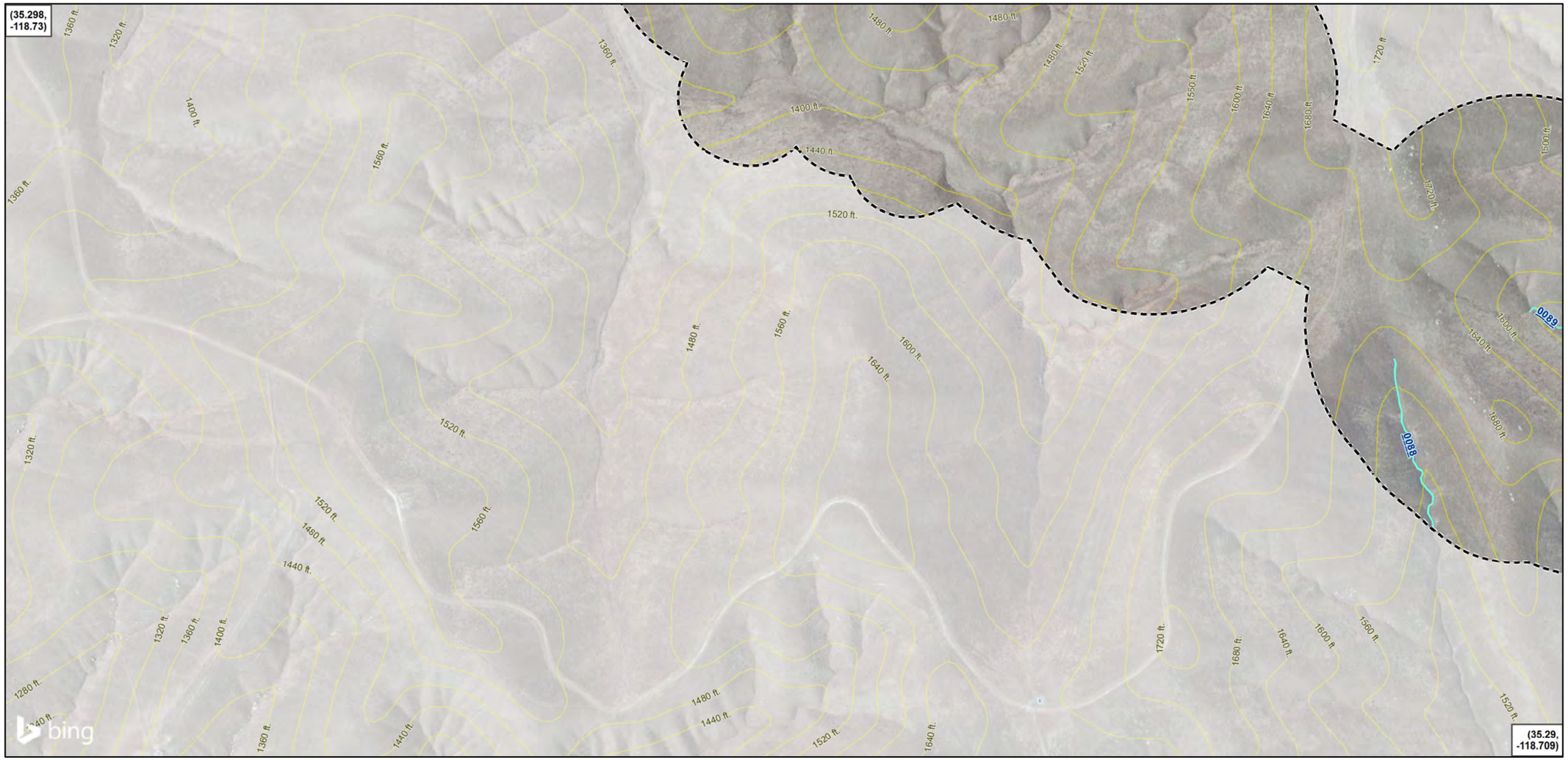


Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

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Ephemeral Stream

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Elevation Contour

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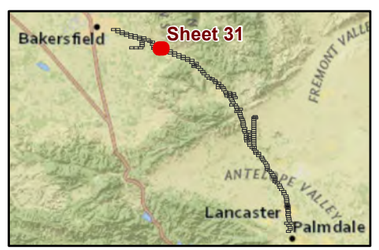
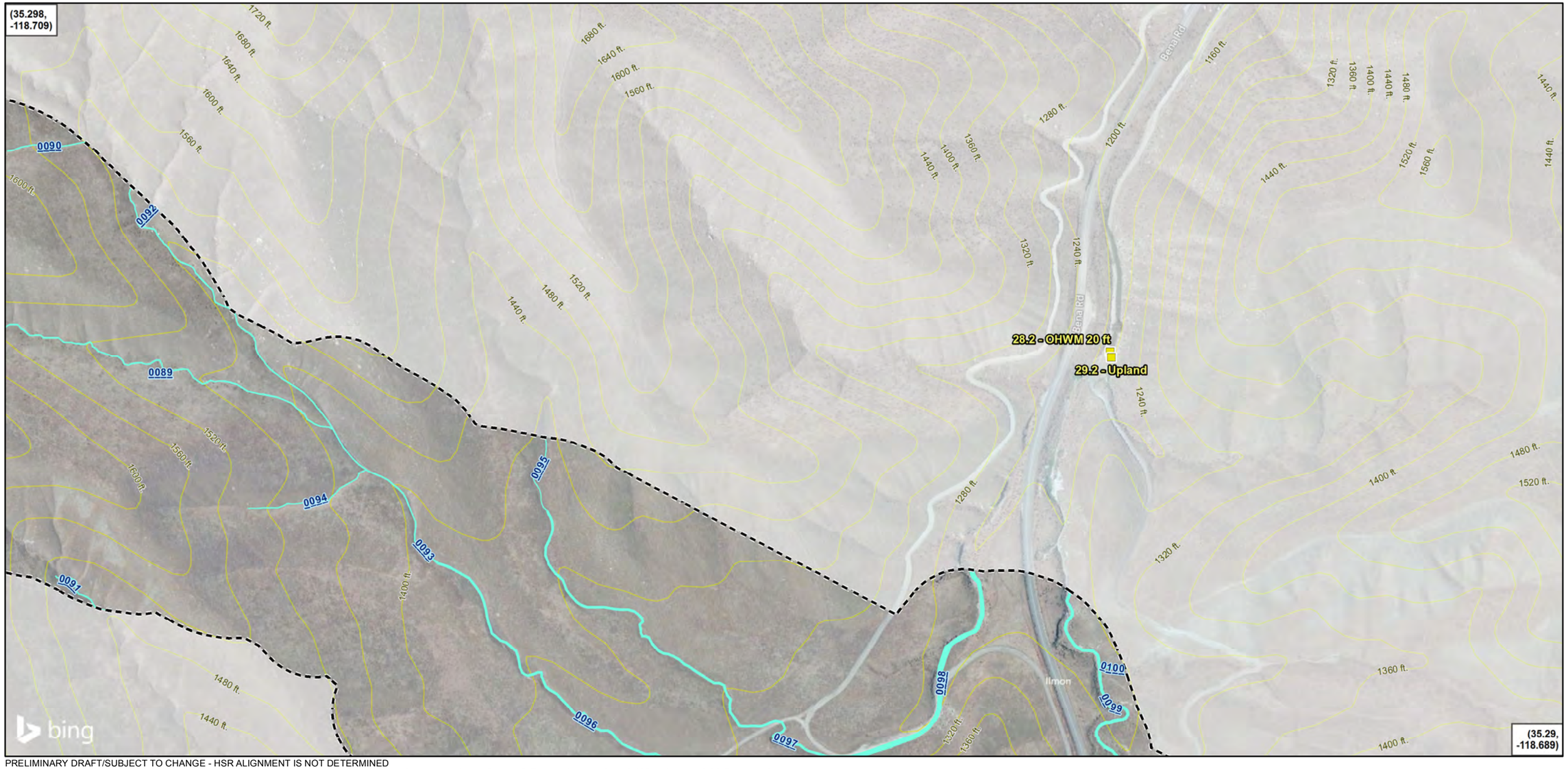


Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Wetland Determination Sample
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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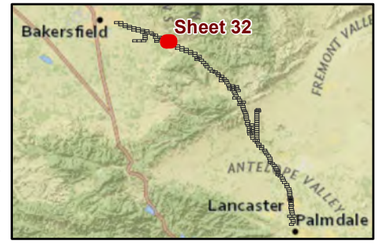

Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream
Culvert Connection
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
OHWM Data Point
Elevation Contour

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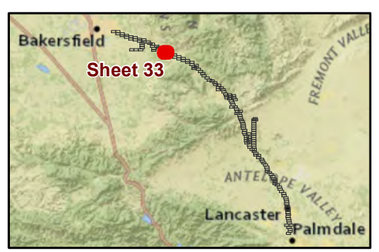
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Wetland Determination Sample Point
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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Aquatic Resources

Study Area for Bakersfield to Palmdale

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N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream
Culvert Connection
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
OHWM Data Point
Elevation Contour

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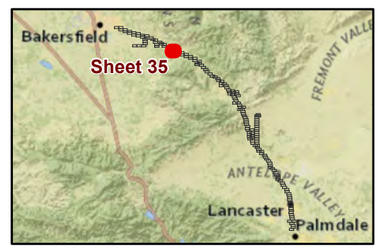
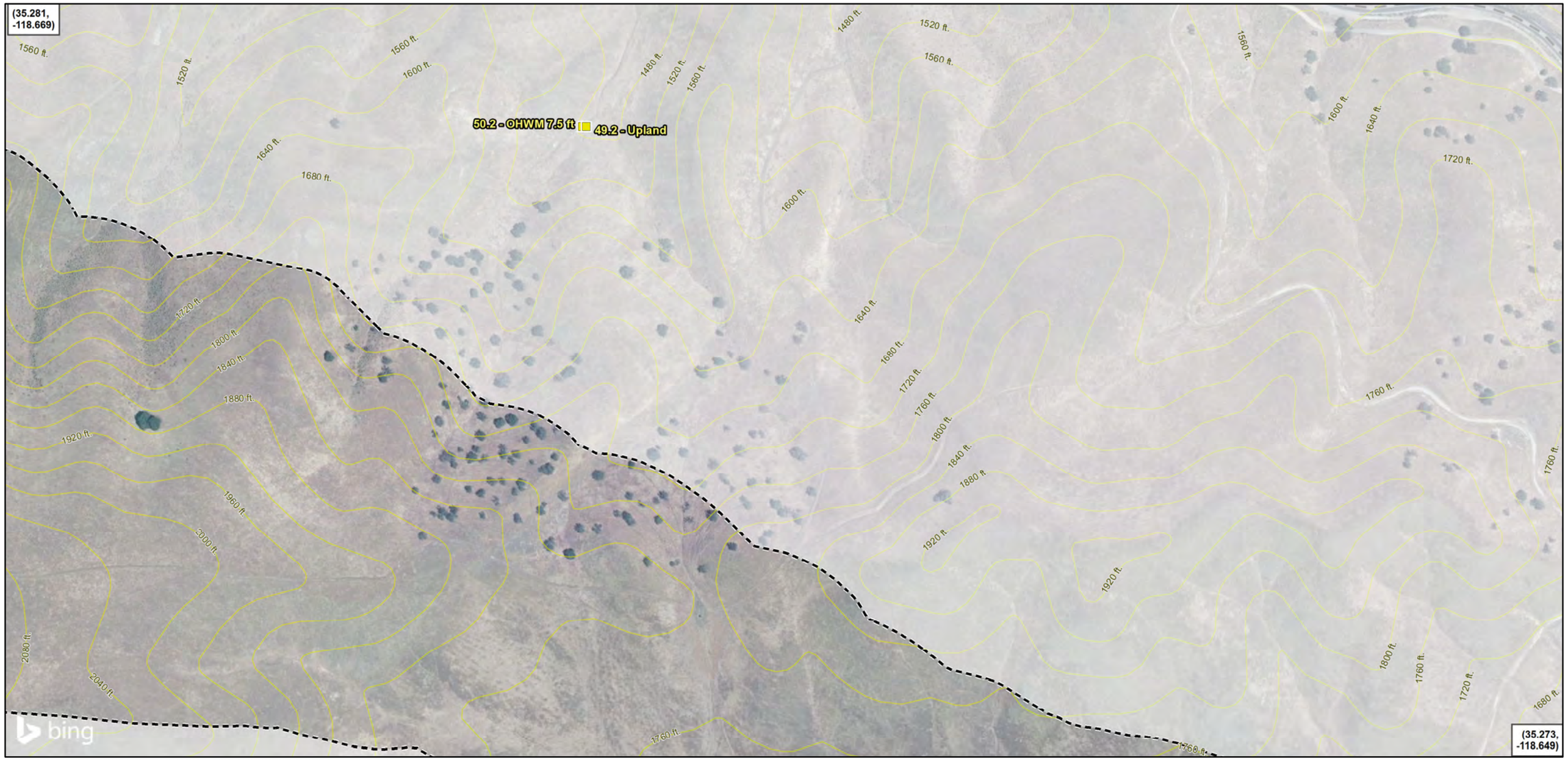


Aquatic Resources

Study Area for Bakersfield to Palmdale

November 3, 2016



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Wetland Determination Sample Point

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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Datum: North American 1983
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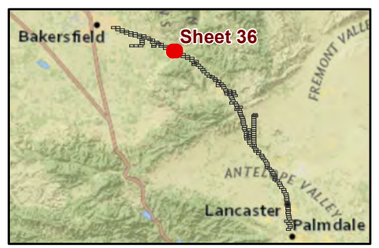
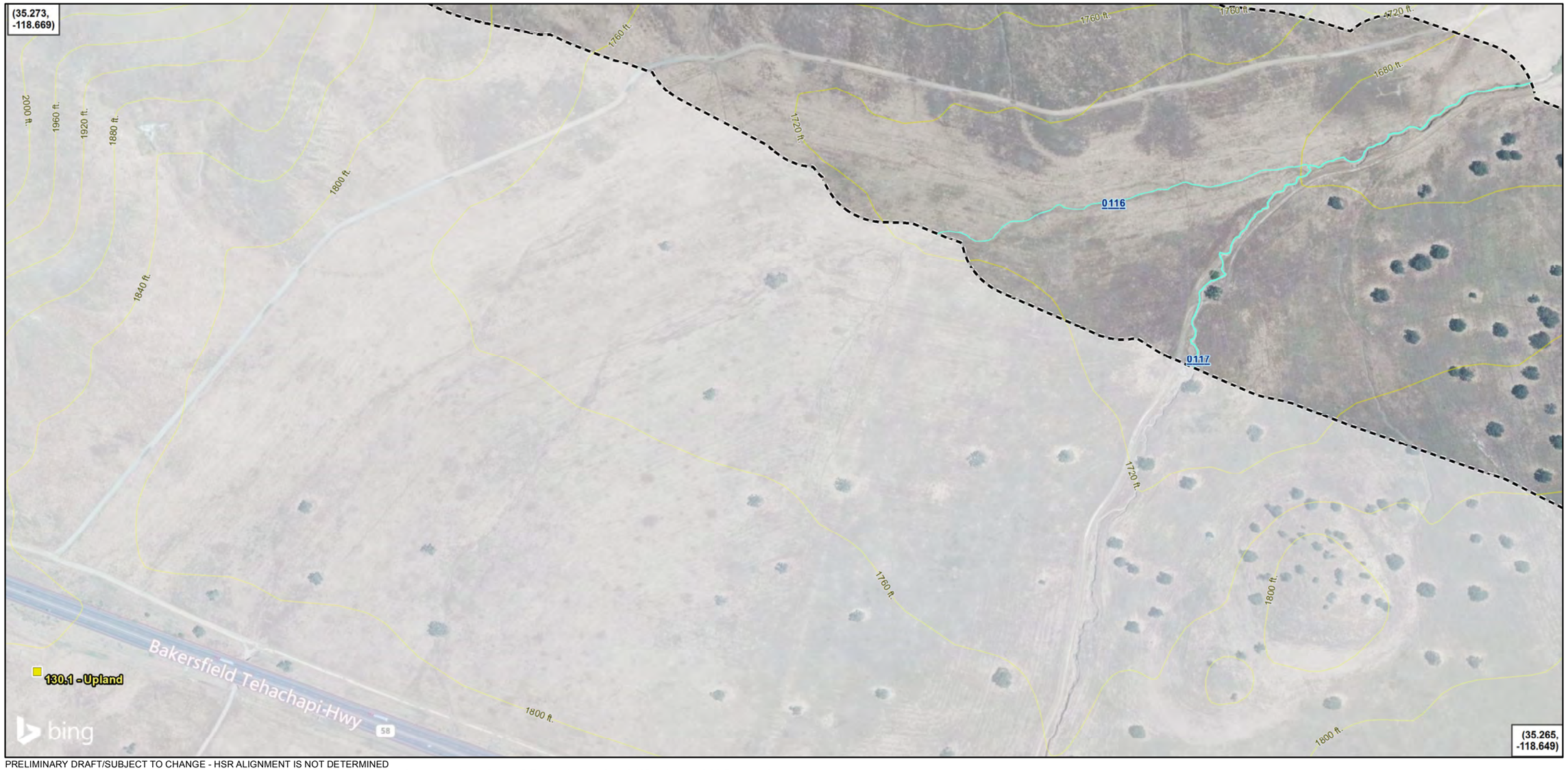


Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
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N

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Feet

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Meters

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Ephemeral Stream
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Wetland Determination Sample Point
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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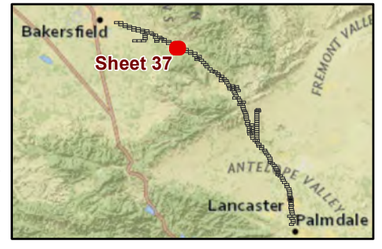

Aquatic Resources

Study Area for Bakersfield to Palmdale

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N

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Feet

0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Elevation Contour

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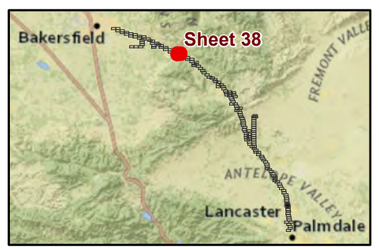
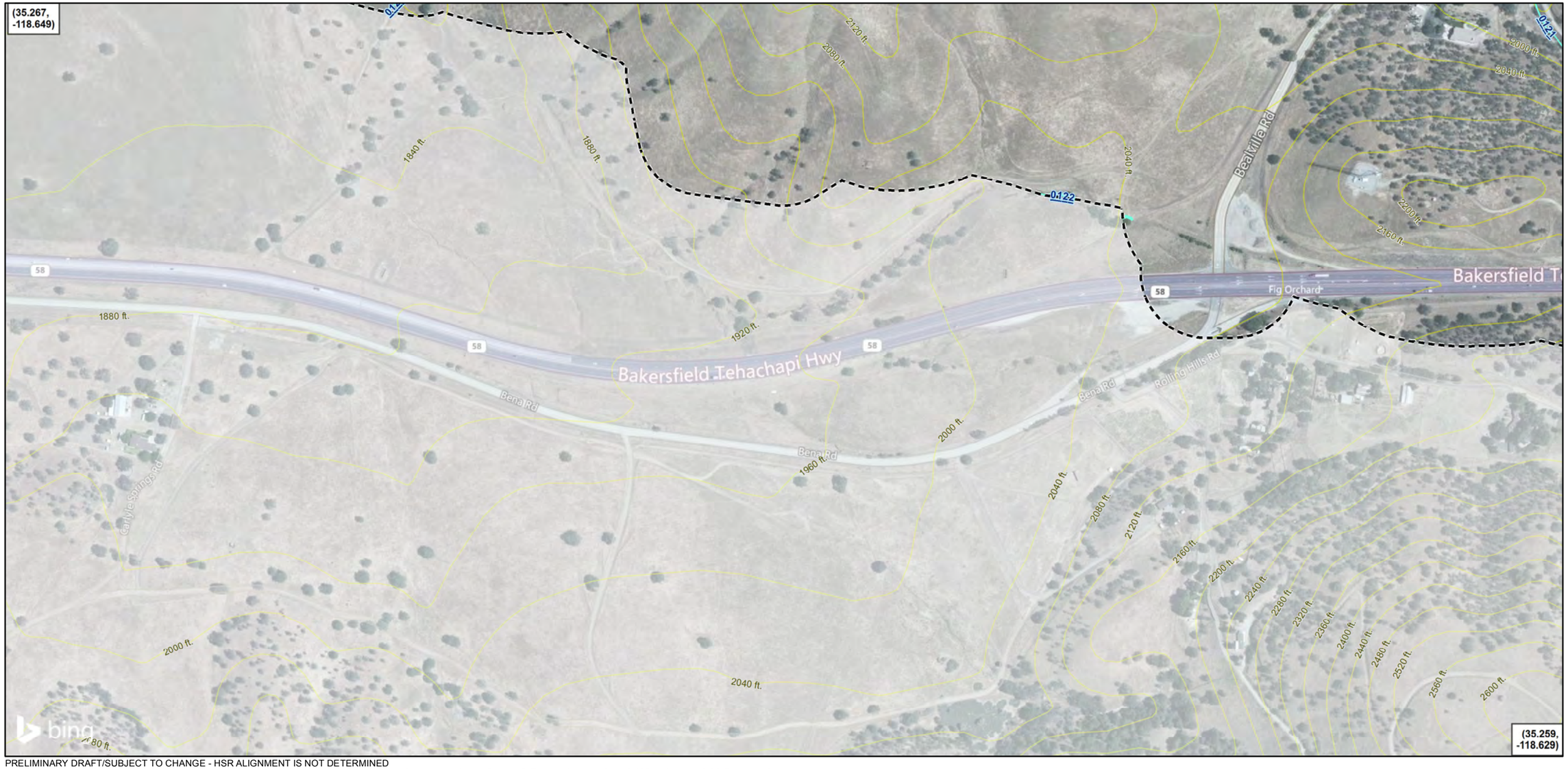


Aquatic Resources

Study Area for Bakersfield to Palmdale



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N

0 200 400
Feet

0 60 120
Meters

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Ephemeral Stream

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Elevation Contour

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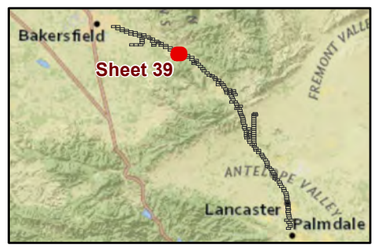

Aquatic Resources

Study Area for Bakersfield to Palmdale

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N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Perennial Stream
Intermittent Stream
Ephemeral Stream
Culvert Connection
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

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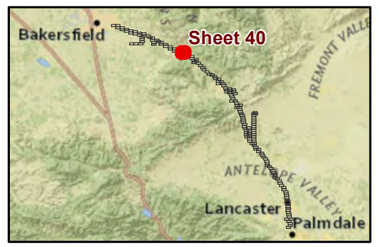

Aquatic Resources

Study Area for Bakersfield to Palmdale

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N

0 200 400
Feet

0 60 120
Meters

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Perennial Stream
Intermittent Stream
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

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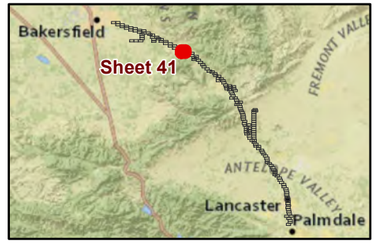

Aquatic Resources

Study Area for Bakersfield to Palmdale

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N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

- Seasonal Wetland
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
- Elevation Contour

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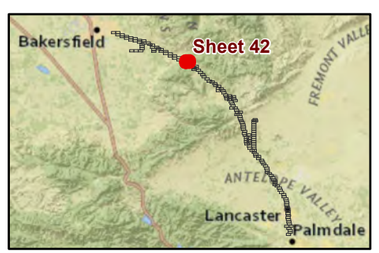

Aquatic Resources

Study Area for Bakersfield to Palmdale

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N

0 200 400
Feet

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Meters

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Ephemeral Stream

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Elevation Contour

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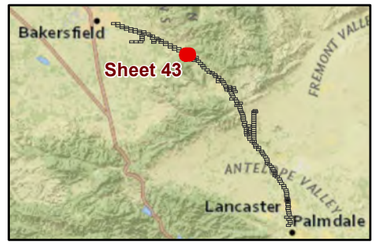
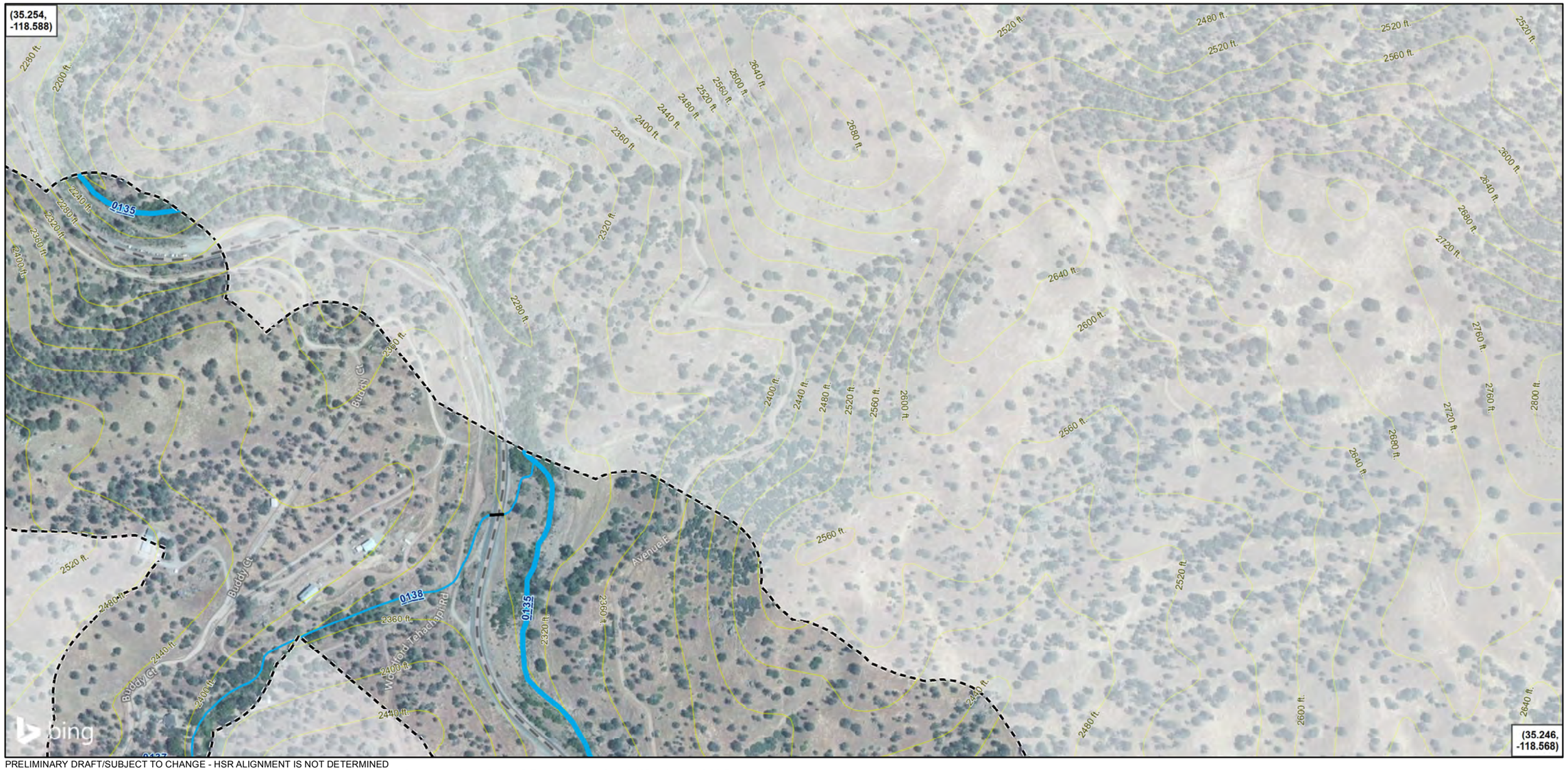


Aquatic Resources

Study Area for Bakersfield to Palmdale



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SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

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Feet

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Meters

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Intermittent Stream
Ephemeral Stream
Culvert Connection
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

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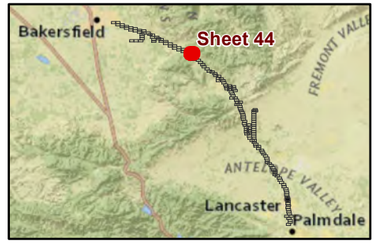

Aquatic Resources

Study Area for Bakersfield to Palmdale

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Feet

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Meters

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Intermittent Stream
Ephemeral Stream
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

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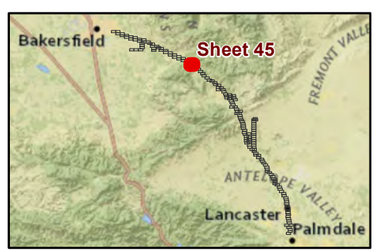

Aquatic Resources

Study Area for Bakersfield to Palmdale

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Intermittent Stream
Ephemeral Stream
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
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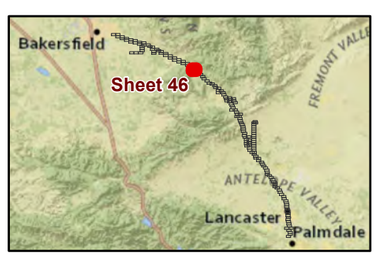
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

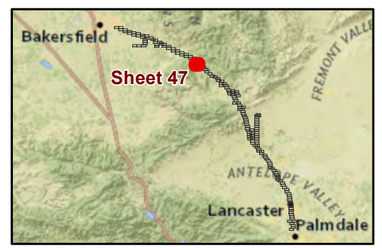
Intermittent Stream

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Elevation Contour

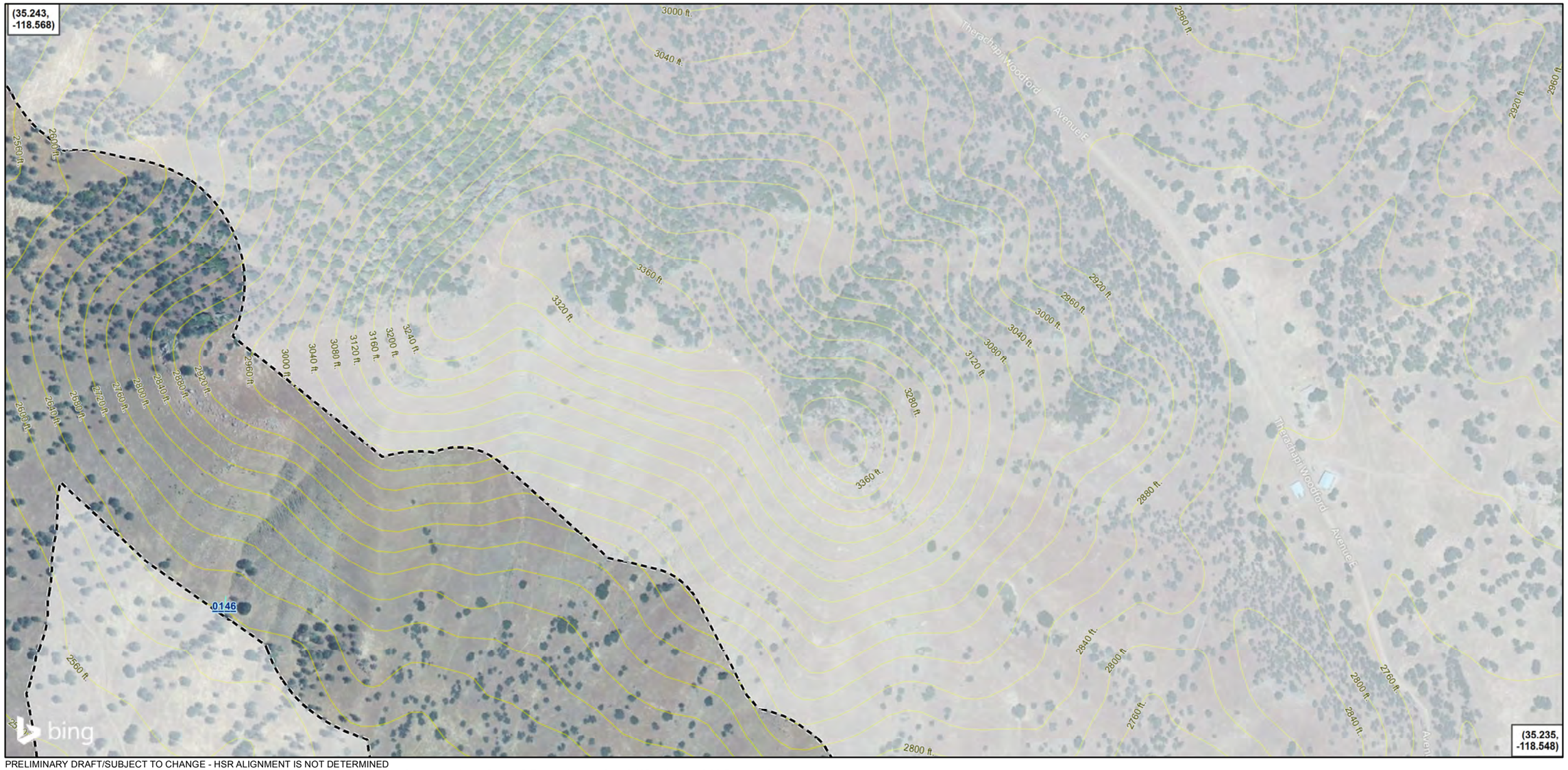
Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

Ephemeral Stream
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

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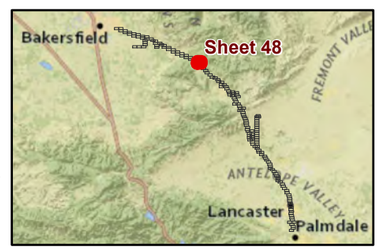
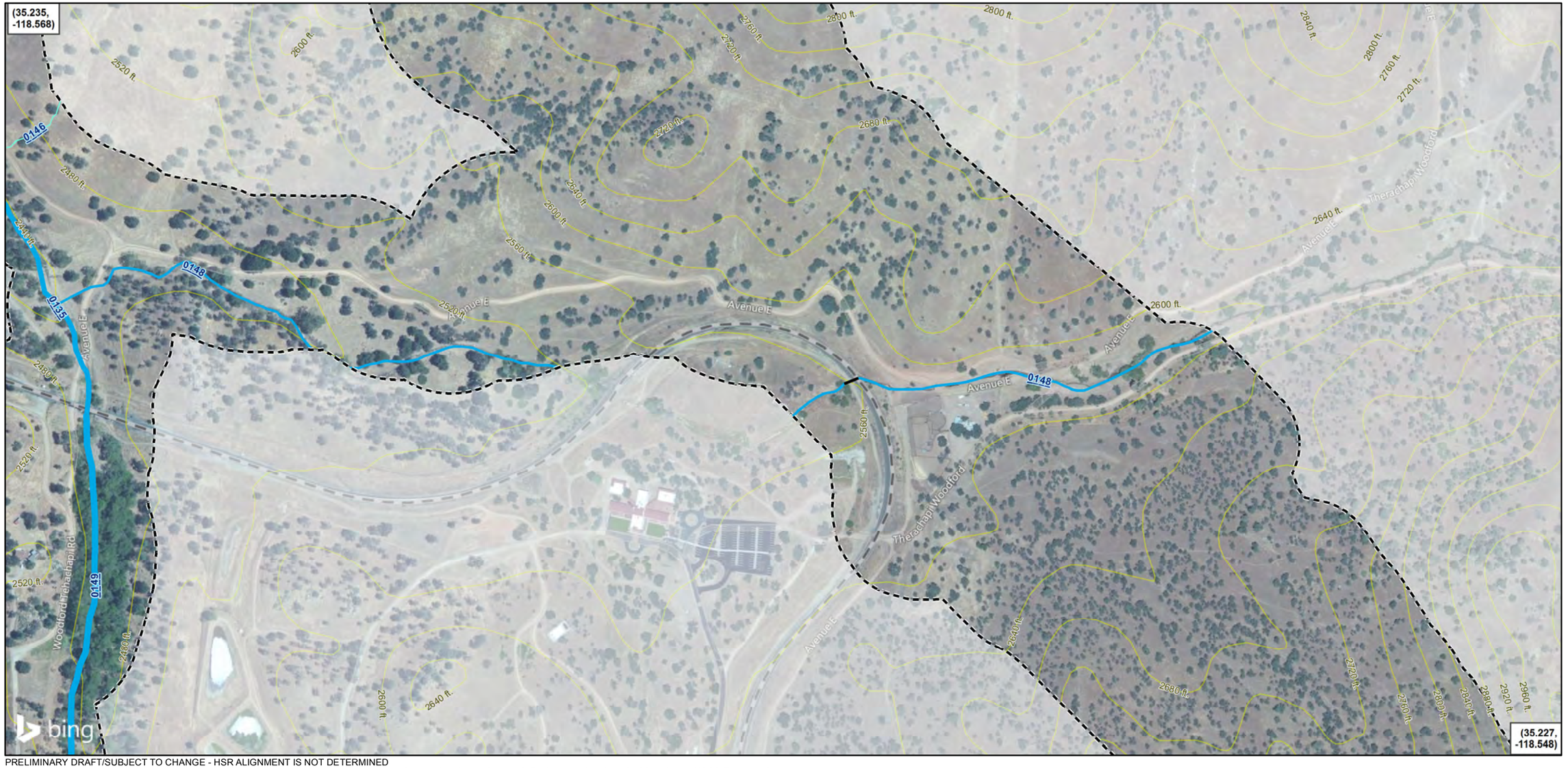
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Intermittent Stream
Ephemeral Stream
Culvert Connection
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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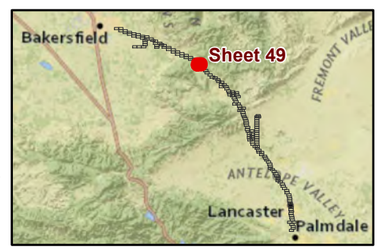
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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Projection: Lambert Conic Conformal
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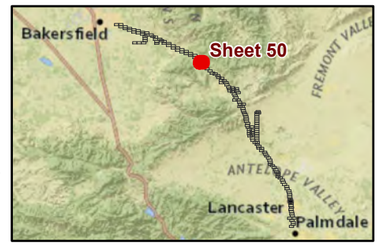
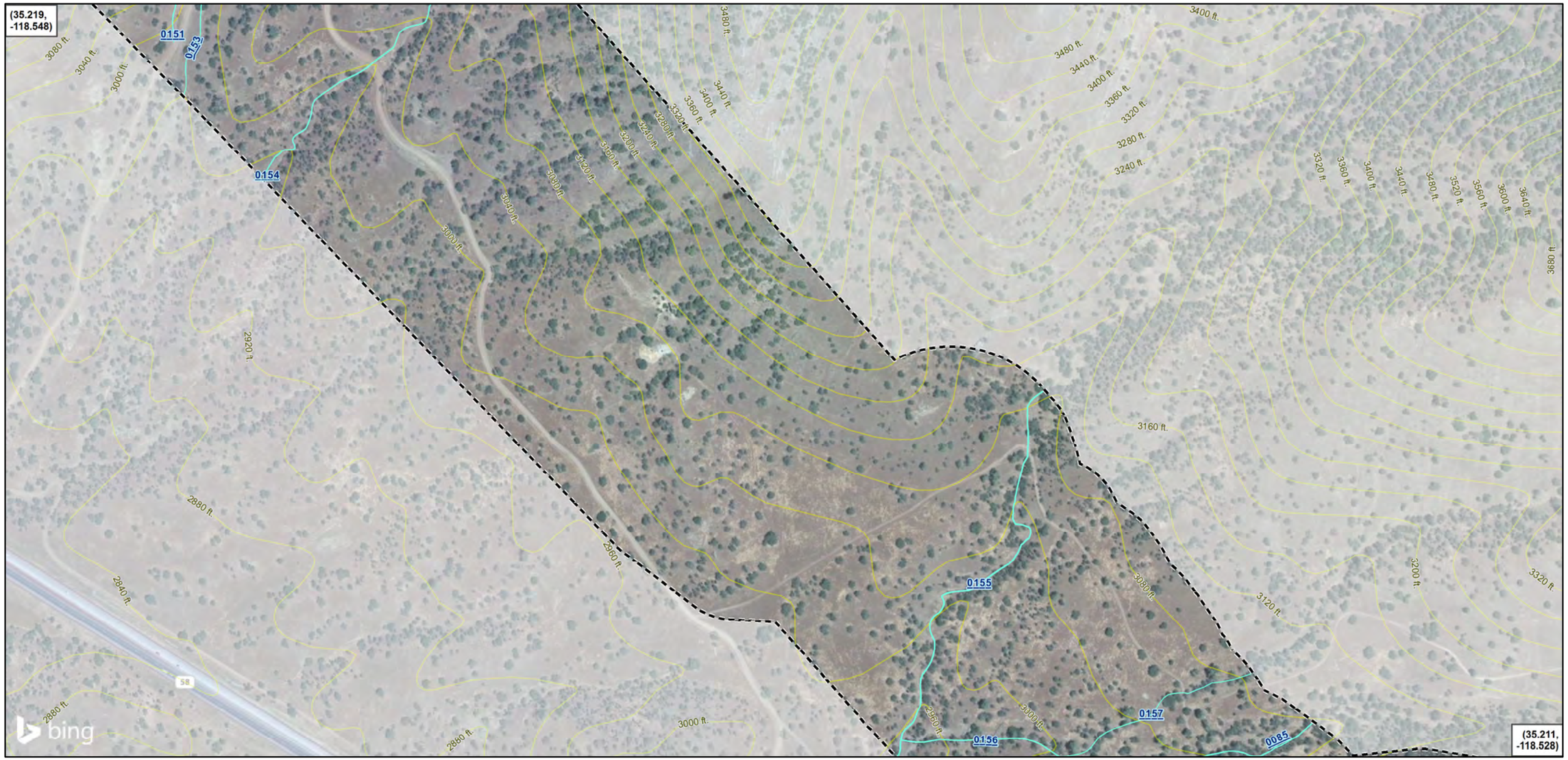
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream

Aquatic Resources Study Area
(Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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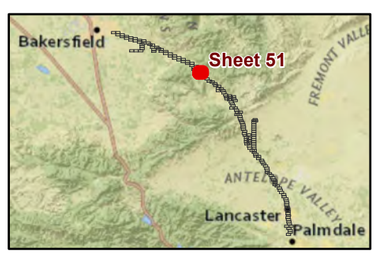

Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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Projection: Lambert Conic Conformal
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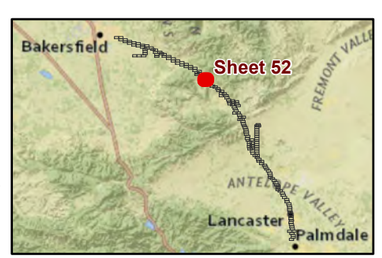
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Intermittent Stream
Ephemeral Stream
Culvert Connection
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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Vertical Datum: NAVD88, U.S. Feet

Aquatic Resources

Study Area for Bakersfield to Palmdale

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N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Intermittent Stream
Ephemeral Stream
Culvert Connection
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

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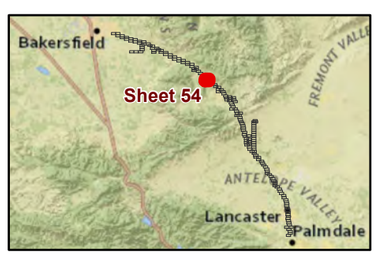

Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Intermittent Stream
Ephemeral Stream
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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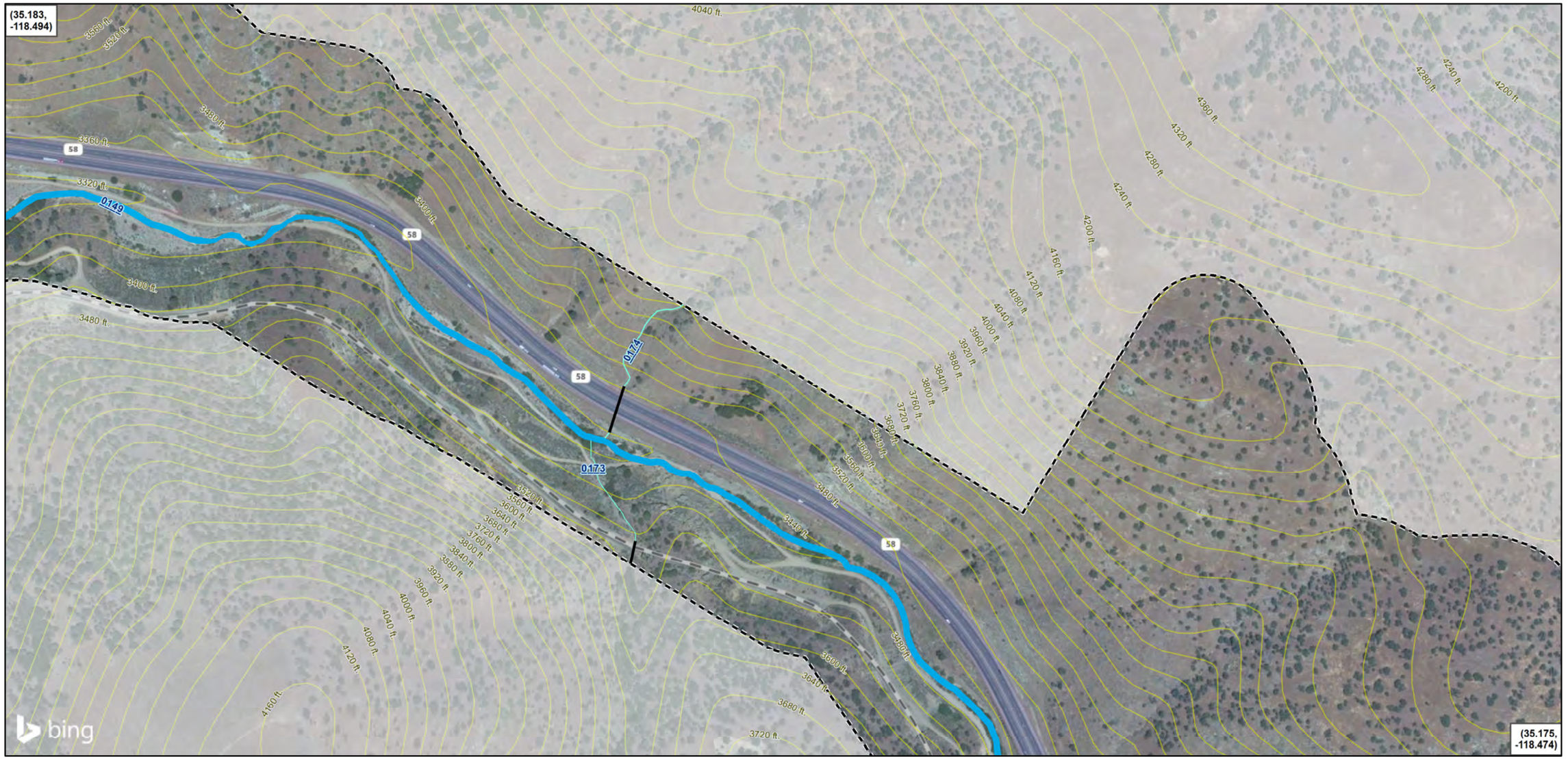
Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Intermittent Stream
Ephemeral Stream
Culvert Connection
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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Projection: Lambert Conic Conformal
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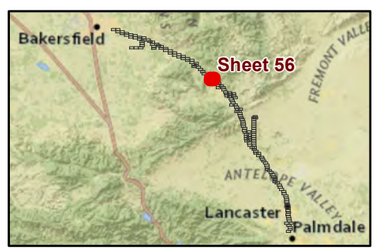
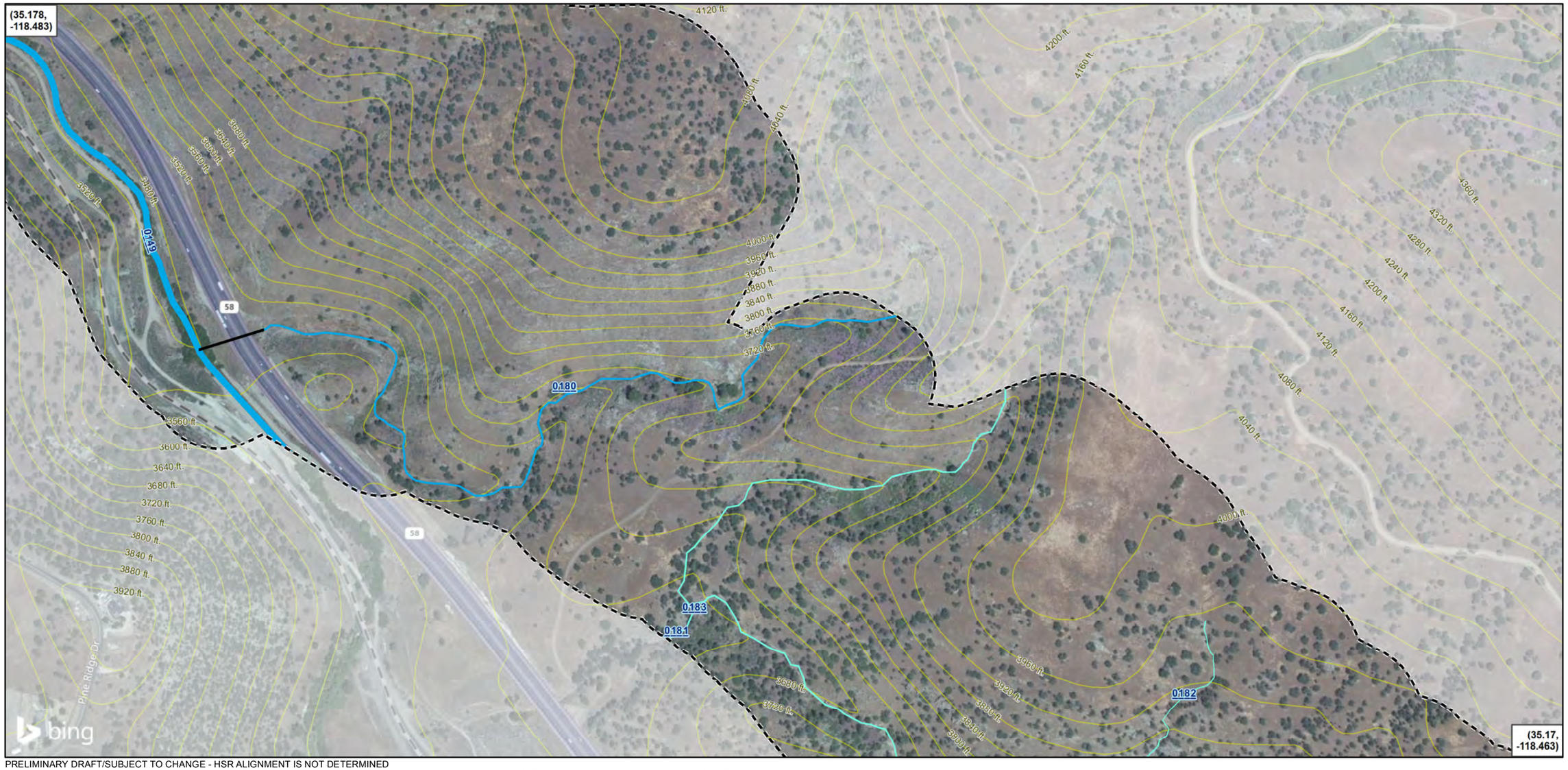
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Intermittent Stream
Ephemeral Stream
Culvert Connection
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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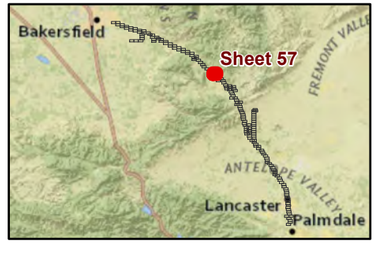
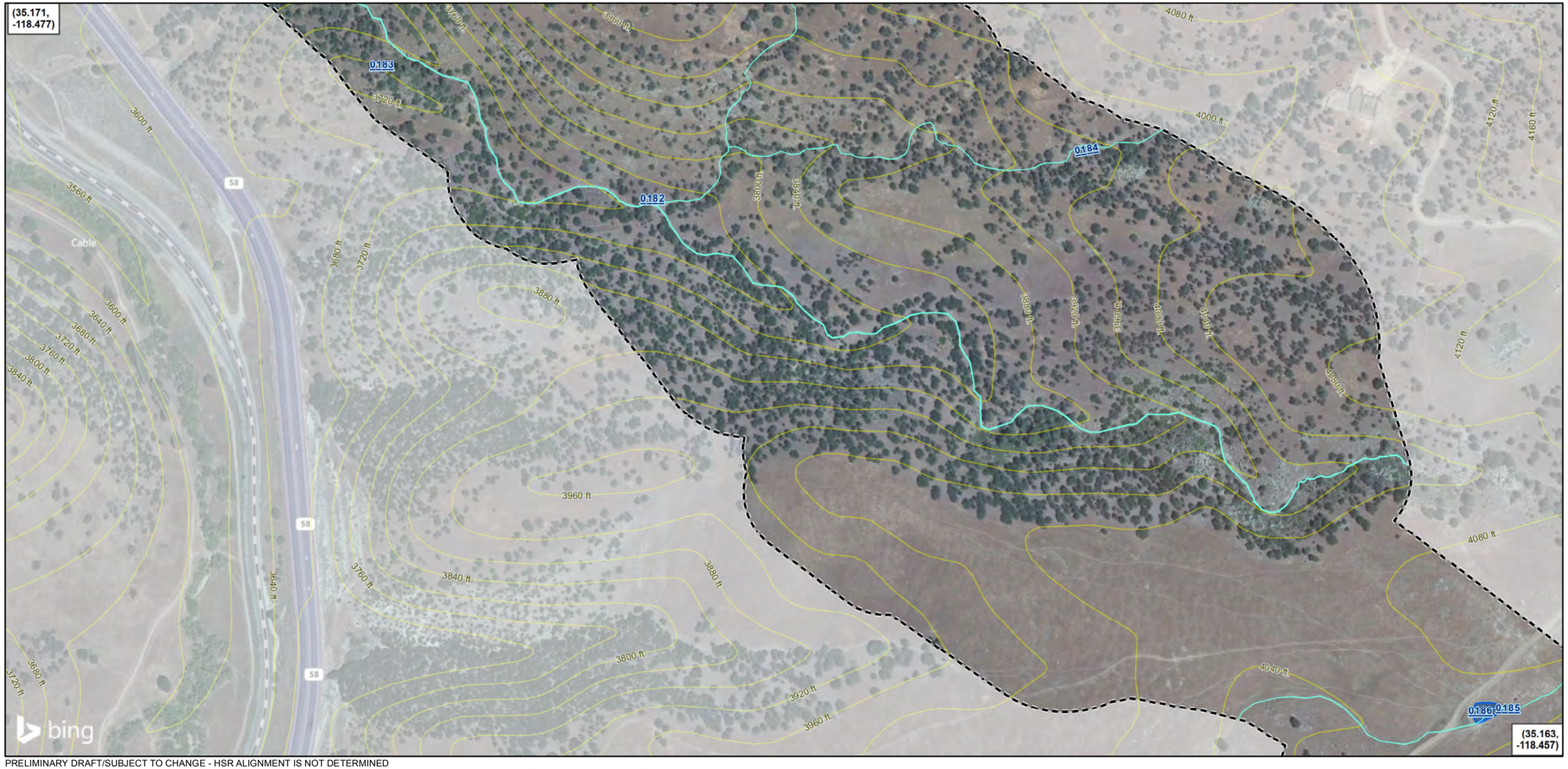


Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

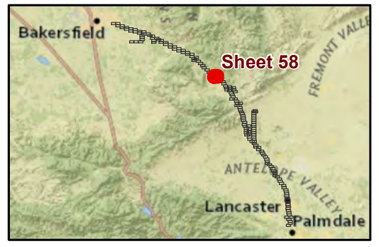
0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream
In-Stream Basin
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

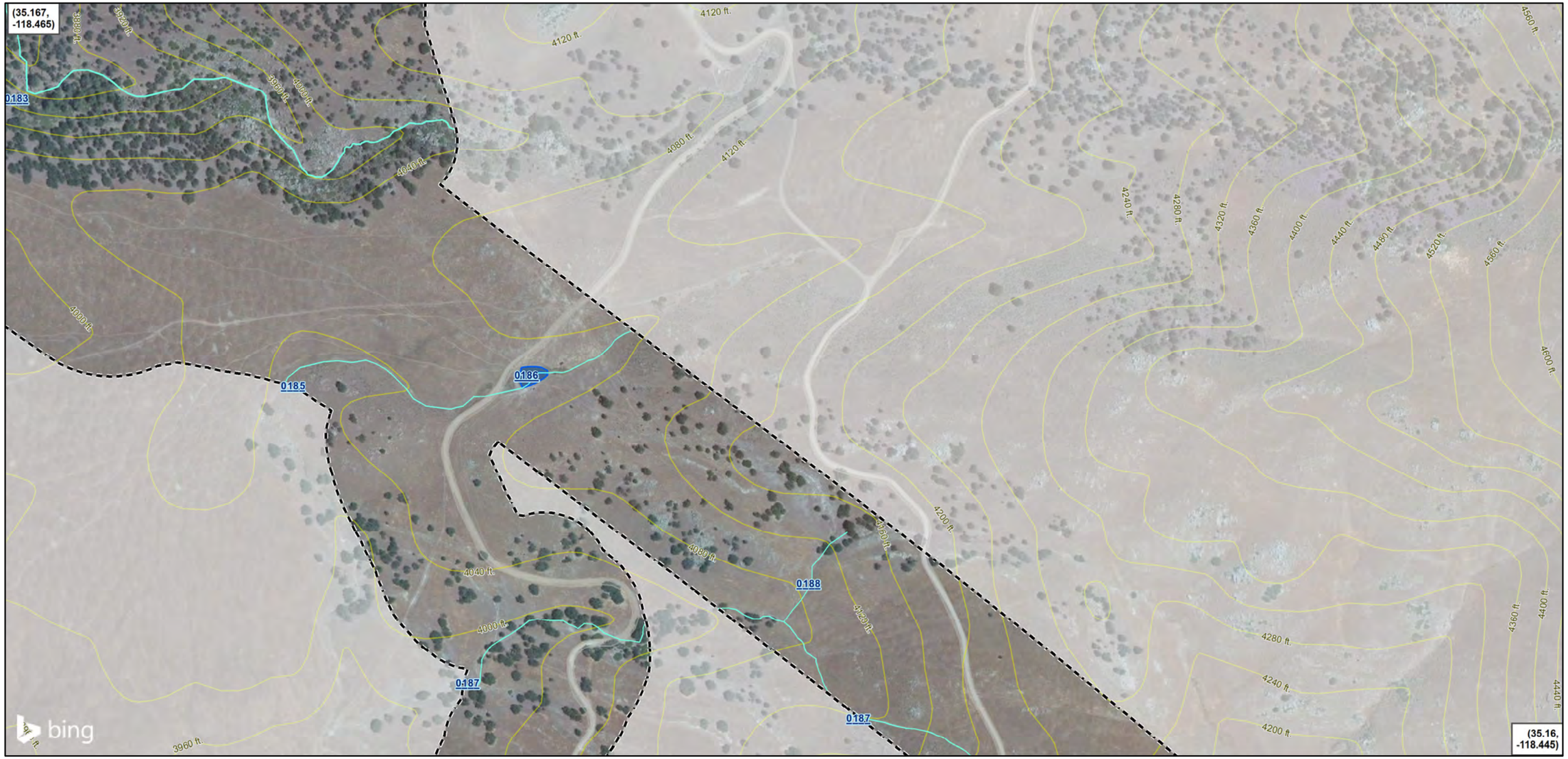
Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream
In-Stream Basin
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

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Vertical Datum: NAVD88, U.S. Feet

Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
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Ephemeral Stream
In-Stream Basin
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

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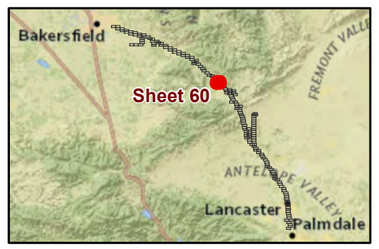

Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream

Aquatic Resources Study Area
(Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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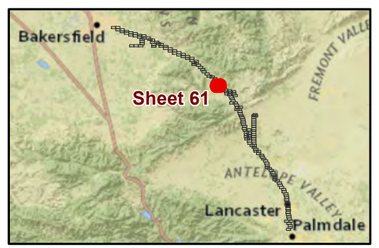

Aquatic Resources

Study Area for Bakersfield to Palmdale

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SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream
In-Stream Basin
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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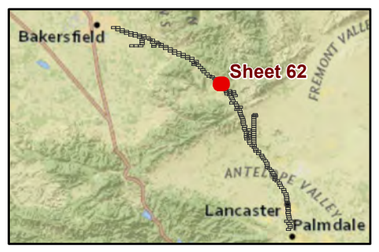
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

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N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Ephemeral Stream

Aquatic Resources Study Area
(Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

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Projection: Lambert Conic Conformal
Datum: North American 1983
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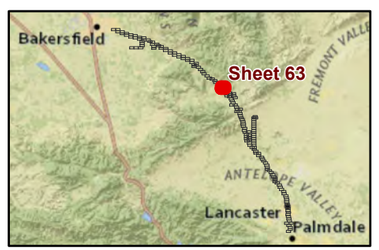
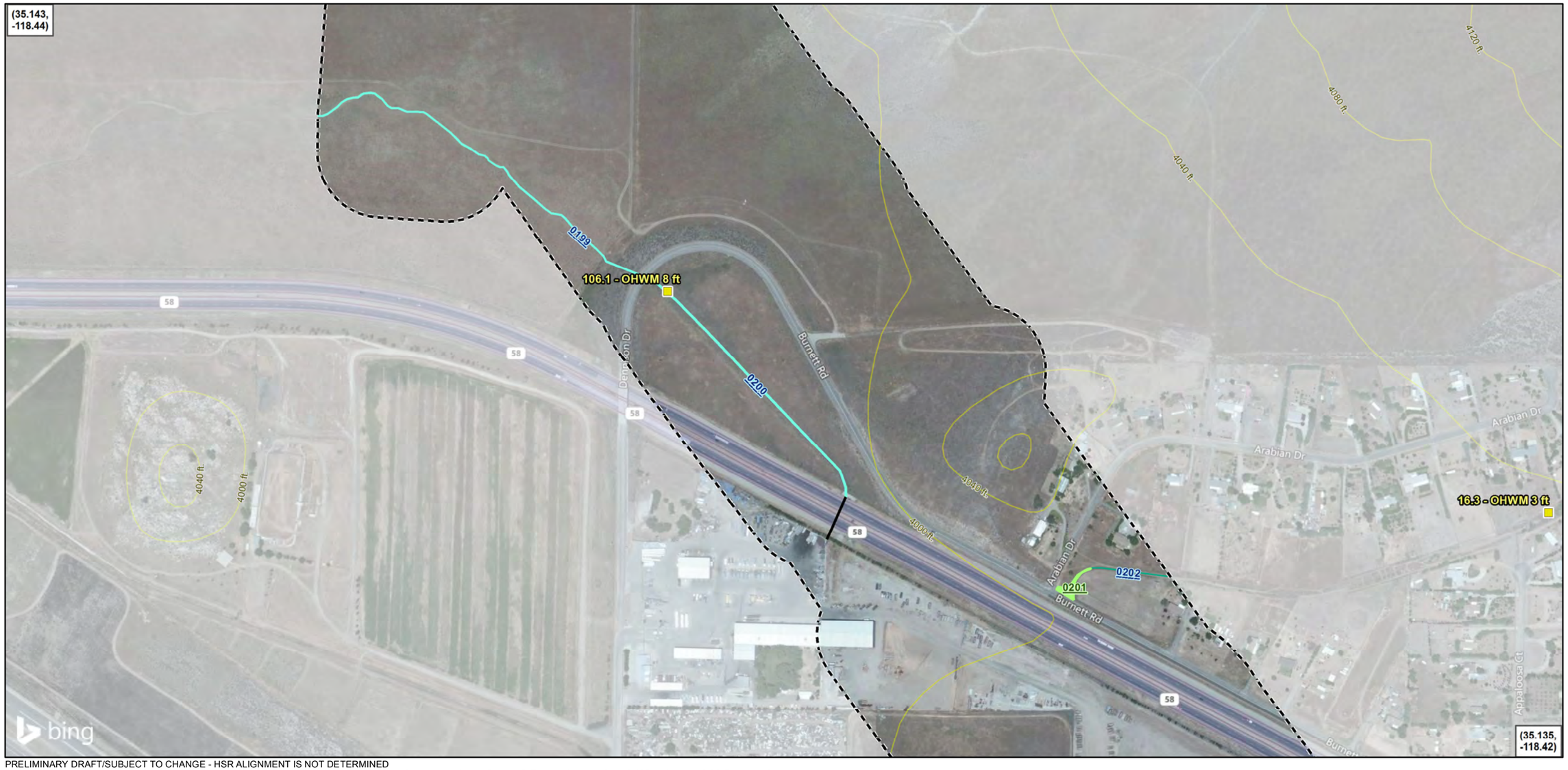


Aquatic Resources

Study Area for Bakersfield to Palmdale



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

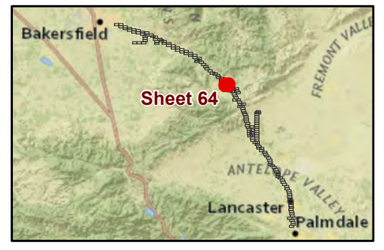
0 60 120
Meters

1 inch = 400 feet

Seasonal Wetland
Ephemeral Stream
Desert Wash
Culvert Connection
Aquatic Resources Study Area (Project Footprint +250 ft Buffer)
Wetland Determination Sample
Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Wetland Determination Sample Point

Elevation Contour

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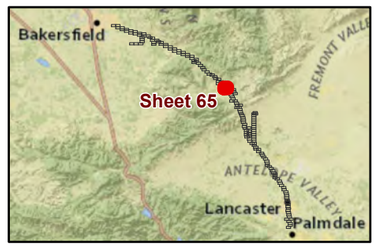
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

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SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

Basin

Aquatic Resources Study Area (Project Footprint +250 ft Buffer)

Elevation Contour

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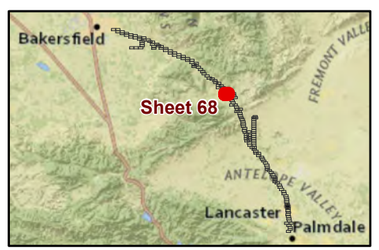
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

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SOURCE: Microsoft Corporation Bing Hybrid Imagery ESRI Service Layer (2016); Esri/National Geographic (2016); Phase 4B Engineering data from CHSR (4/2016); USGS Elevation Contours (2014).

N

0 200 400
Feet

0 60 120
Meters

1 inch = 400 feet

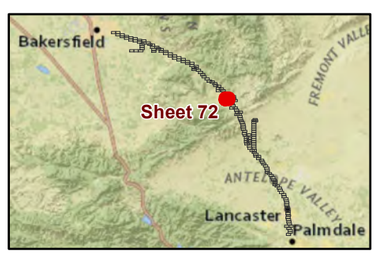
Basin

Aquatic Resources Study Area
(Project Footprint +250 ft Buffer)

Elevation Contour

Made in accordance with the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program, as amended on September 10, 2016.

Coordinate System: NAD 1983 California State Plane V
Projection: Lambert Conic Conformal
Datum: North American 1983
Vertical Datum: NAVD88, U.S. Feet



Aquatic Resources

Study Area for Bakersfield to Palmdale

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
59	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	532	CalienteCreek_0059	3.28	22, 23, 24	Lower Caliente Creek (HUC12)
60	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	100	CalienteCreek_0060	0.86	23, 24	Lower Caliente Creek (HUC12)
61	Basin - In Stream	ephemeral	Palustrine unconsolidated bottom	PUB	n/a	--	Imp_0061	0.15	24	Lower Caliente Creek (HUC12)
62	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1	Str_0062	0.007	24	Lower Caliente Creek (HUC12)
63	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	9	Str_0063	0.09	24	Lower Caliente Creek (HUC12)
64	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0064	0.03	24, 25	Lower Caliente Creek (HUC12)

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
65	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1.5	Str_0065	0.02	24	Lower Caliente Creek (HUC12)
66	Basin - In Stream	perennial	Palustrine unconsolidated bottom	PUB	n/a	--	Imp_0066	0.33	24	Lower Caliente Creek (HUC12)
67	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	6	Str_0067	0.08	24	Lower Caliente Creek (HUC12)
68	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2.5	Str_0068	0.006	24	Lower Caliente Creek (HUC12)
69	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	6	Str_0069	0.21	24, 25	180300030602 (HUC12)
70	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0070	0.02	25	180300030602 (HUC12)
71	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	5	Str_0071	0.04	25	180300030602 (HUC12)
72	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	6	Str_0072	0.06	26	180300030602 (HUC12)
73	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0073	0.08	26	180300030602 (HUC12)
74	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0074	0.02	26	180300030602 (HUC12)
75	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0075	0.006	26	180300030602 (HUC12)
76	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	6	Str_0076-001	0.04	26, 28	180300030602 (HUC12)
							Str_0076-002	0.05		
							Str_0076-003	0.43		
77	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	20	Str_0077	0.15	27	180300030602 (HUC12)

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
78	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0078	0.09	28	180300030602 (HUC12)
79	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	3	Str_0079	0.07	28, 29	180300030602 (HUC12)
80	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1.5	Str_0080	0.02	28, 29	180300030602 (HUC12)
81	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1.5	Str_0081	0.02	28, 29	180300030602 (HUC12)
82	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	5	Str_0082	0.08	29	180300030602 (HUC12)
83	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0083	0.05	29, 30	180300030602 (HUC12)
84	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1.5	Str_0084	0.03	29, 30	180300030602 (HUC12)
85	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1.5	Str_0085	0.02	29, 30	180300030602 (HUC12)
86	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0086-001	0.11	29, 30	180300030602 (HUC12)
							Str_0086-002	0.02		
							Str_0086-003	0.02		
87	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0087	0.05	30	180300030602 (HUC12)
88	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	5	Str_0088	0.08	31	Lower Caliente Creek (HUC12)
89	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0089	0.15	31, 32	Lower Caliente Creek (HUC12)
90	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	3	Str_0090	0.02	32	Lower Caliente Creek (HUC12)
91	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0091-001	0.0003	32	Lower Caliente Creek (HUC12)
							Str_0091-002	0.02		

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
92	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0092	0.004	32	Lower Caliente Creek (HUC12)
93	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0093-001	0.12	32	Lower Caliente Creek (HUC12)
							Str_0093-002	0.06		
94	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	3	Str_0094	0.03	32	Lower Caliente Creek (HUC12)
95	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0095	0.01	32	Lower Caliente Creek (HUC12)
96	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	8	Str_0096	0.32	32, 33	Lower Caliente Creek (HUC12)
97	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	8	Str_0097	0.34	32, 33	Lower Caliente Creek (HUC12)
98	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	33	Str_0098	0.94	32, 33	Lower Caliente Creek (HUC12)
99	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	10	Str_0099	0.29	32, 33	Lower Caliente Creek (HUC12)
100	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	6	Str_0100	0.01	32	Lower Caliente Creek (HUC12)
101	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	6	Str_0101	0.09	33	Lower Caliente Creek (HUC12)
102	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	6	Str_0102	0.04	33	Lower Caliente Creek (HUC12)
103	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	15	Str_0103	0.18	33	Lower Caliente Creek (HUC12)
104	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0104	0.07	33	Lower Caliente Creek (HUC12)
105	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0105	0.08	34	Lower Caliente Creek (HUC12)

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
106	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0106	0.13	34	Lower Caliente Creek (HUC12)
107	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	8	Str_0107	0.15	34	Lower Caliente Creek (HUC12)
108	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	6	Str_0108	0.0008	34	Lower Caliente Creek (HUC12)
109	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	8	Str_0109	0.12	34	Lower Caliente Creek (HUC12)
110	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	11	Str_0110	0.19	34, 35	Lower Caliente Creek (HUC12)
111	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0111	0.19	34	Lower Caliente Creek (HUC12)
112	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0112	0.05	34	Lower Caliente Creek (HUC12)
113	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	3	Str_0113	0.04	34	Lower Caliente Creek (HUC12)
114	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	5	Str_0114	0.05	34	Lower Caliente Creek (HUC12)
115	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	5	Str_0115	0.05	35	Lower Caliente Creek (HUC12)
116	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0116	0.07	37	Lower Caliente Creek (HUC12)
117	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0117	0.19	37	Lower Caliente Creek (HUC12)
119	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0119	0.09	38	Lower Caliente Creek (HUC12)
120	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0120	0.09	38, 39	Lower Caliente Creek (HUC12)
121	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0121	0.13	38, 39, 40	Lower Caliente Creek (HUC12)

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
122	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	10	Str_0122-001	0.01	39	Lower Caliente Creek (HUC12)
							Str_0122-002	0.03		
123	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	3	Str_0123	0.11	40	Lower Caliente Creek (HUC12)
124	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1.5	Str_0124-001	0.02	40	Lower Tehachapi Creek (HUC12)
							Str_0124-002	0.01		
125	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0125-001	0.05	40	Lower Tehachapi Creek (HUC12)
							Str_0125-002	0.04		
127	Perennial Stream	perennial	Riverine, lower perennial, unconsolidated bottom	R2UB	n/a	12	ClearCreek_0127-001	0.08	40, 41, 42	Lower Tehachapi Creek (HUC12)
							ClearCreek_0127-002	0.44		
							ClearCreek_0127-003	0.16		
							ClearCreek_0127-004	0.12		
128	Intermittent Stream	intermittent	Riverine, intermittent, streambed	R4SB	n/a	12	Str_0128	0.43	40, 41	Lower Tehachapi Creek (HUC12)
131	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1.5	Str_0131	0.04	42, 43	Lower Tehachapi Creek (HUC12)
133	Seasonal Wetland	intermittent	Palustrine emergent	PEM	Riverine	--	SW_0133	0.51	42	Lower Tehachapi Creek (HUC12)
135	Intermittent Stream	intermittent	Riverine, intermittent, streambed	R4SB	n/a	20	TehachapiCreek_0135a-001	0.45	42, 44, 45, 46, 49	Lower Tehachapi Creek (HUC12)
							TehachapiCreek_0135b-001	0.27		Middle Tehachapi Creek (HUC12)
							TehachapiCreek_0135-002	0.81		Lower Tehachapi Creek (HUC12)
							TehachapiCreek_0135-003	0.2		Lower Tehachapi Creek (HUC12)
							TehachapiCreek_0135-004	0.17		Lower Tehachapi Creek (HUC12)

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
136	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1.5	Str_0136	0.03	43	Lower Tehachapi Creek (HUC12)
137	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1.5	Str_0137	0.02	44, 45	Lower Tehachapi Creek (HUC12)
138	Intermittent Stream	intermittent	Riverine, intermittent, streambed	R4SB	n/a	8	Str_0138-001	0.36	44, 45	Lower Tehachapi Creek (HUC12)
							Str_0138-002	0.17		
							Str_0138-003	0.05		
143	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	3	Str_0143	0.11	45	Lower Tehachapi Creek (HUC12)
144	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	3	Str_0144	0.06	45	Lower Tehachapi Creek (HUC12)
146	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0146-001	0.01	46, 48, 49	Lower Tehachapi Creek (HUC12)
							Str_0146-002	0.003		
148	Intermittent Stream	intermittent	Riverine, intermittent, streambed	R4SB	n/a	10	TweedyCreek_0148b-001	0.06	46, 49	Tweedy Creek (HUC12)
							TweedyCreek_0148b-002	0.19	46, 49	
							TweedyCreek_0148b-003	0.33	46, 49	
							TweedyCreek_0148a-004	0.02	46, 49	Middle Tehachapi Creek (HUC12)
							TweedyCreek_0148b-004	0.25	46, 49	Tweedy Creek (HUC12)
149	Intermittent Stream	intermittent	Riverine, intermittent, streambed	R4SB	n/a	25	TehachapiCreek_0149-001	4.63	46, 49, 53, 54, 55, 56, 57	Middle Tehachapi Creek (HUC12)
							TehachapiCreek_0149-002	0.24		
							TehachapiCreek_0149-003	0.15		
							TehachapiCreek_0149-004	0.31		
							TehachapiCreek_0149-005	0.93		

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
							TehachapiCreek_0149-006	0.92		
150	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1	Str_0150	0.01	50	Tweedy Creek (HUC12)
151	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	3	Str_0151	0.04	50, 51	Middle Tehachapi Creek (HUC12)
152	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	5	Str_0152-001	0.1	50	Tweedy Creek (HUC12)
							Str_0152-002	0.05		
153	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0153	0.05	50, 51	Middle Tehachapi Creek (HUC12)
154	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	3	Str_0154	0.08	50, 51	Middle Tehachapi Creek (HUC12)
155	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0155	0.16	51, 52	Middle Tehachapi Creek (HUC12)
156	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	3	Str_0156	0.12	51, 52	Middle Tehachapi Creek (HUC12)
157	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1.5	Str_0157	0.03	51, 52	Middle Tehachapi Creek (HUC12)
158	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0158	0.1	52, 53	Middle Tehachapi Creek (HUC12)
159	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	6	Str_0159	0.23	52, 53	Middle Tehachapi Creek (HUC12)
160	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0160	0.004	52	Middle Tehachapi Creek (HUC12)
161	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1.5	Str_0161-001	0.009	53	Middle Tehachapi Creek (HUC12)
							Str_0161-002	0.04		
162	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	5	Str_0162	0.02	53	Middle Tehachapi Creek (HUC12)
164	Intermittent	intermittent	Riverine,	R4SB	n/a	5	Str_0164-001	0.01	53	Middle Tehachapi

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
	Stream		intermittent, streambed				Str_0164-002	0.09		Creek (HUC12)
166	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1.5	Str_0166-001	0.03	54	Middle Tehachapi Creek (HUC12)
							Str_0166-002	0.02		
167	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	5	Str_0167-001	0.09	54	Middle Tehachapi Creek (HUC12)
							Str_0167-002	0.09		
169	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0169	0.09	55	Middle Tehachapi Creek (HUC12)
173	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1	Str_0173	0.01	56	Middle Tehachapi Creek (HUC12)
174	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0174-001	0.001	56	Middle Tehachapi Creek (HUC12)
							Str_0174-002	0.02		
180	Intermittent Stream	intermittent	Riverine, intermittent, streambed	R4SB	n/a	8	Str_0180	0.66	57	Middle Tehachapi Creek (HUC12)
181	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0181	0.18	57	Middle Tehachapi Creek (HUC12)
182	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0182	0.06	57, 58	Middle Tehachapi Creek (HUC12)
183	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0183	0.55	57, 58, 59	Middle Tehachapi Creek (HUC12)
184	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0184	0.09	58	Middle Tehachapi Creek (HUC12)
185	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0185	0.07	58, 59	Middle Tehachapi Creek (HUC12)
186	Basin - In Stream	intermittent	Palustrine unconsolidated bottom	PUB	n/a	--	Imp_0186-001	0.04	58, 59	Middle Tehachapi Creek (HUC12)
							Imp_0186-002	0.1		
187	Ephemeral	ephemeral	Riverine,	R6	n/a	2	Str_0187-001	0.03	59, 60	Middle Tehachapi

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
	Stream		ephemeral				Str_0187-002	0.04		Creek (HUC12)
							Str_0187-003	0.03		
188	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1.5	Str_0188	0.02	59	Middle Tehachapi Creek (HUC12)
189	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2.5	Str_0189-001	0.06	60, 62	Upper Tehachapi Creek (HUC12)
							Str_0189-002	0.04		
190	Basin - In Stream	intermittent	Palustrine unconsolidated bottom	PUB	n/a	--	IMP_0190-001	0.04	60, 62	Upper Tehachapi Creek (HUC12)
							IMP_0190-002	0.05		
191	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0191	0.05	61	Middle Tehachapi Creek (HUC12)
192	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	2	Str_0192	0.03	62	Upper Tehachapi Creek (HUC12)
193	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	5	Str_0193	0.17	62	Upper Tehachapi Creek (HUC12)
194	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	4	Str_0194	0.07	62	Upper Tehachapi Creek (HUC12)
195	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1	Str_0195	0.02	62, 63	Upper Tehachapi Creek (HUC12)
196	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	6	Str_0196	0.19	62, 63	Upper Tehachapi Creek (HUC12)
197	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1	Str_0197	0.006	63	Upper Tehachapi Creek (HUC12)
198	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	1	Str_0198	0.005	63	Upper Tehachapi Creek (HUC12)
199	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	6	Str_0199	0.22	64	Upper Tehachapi Creek (HUC12)
200	Ephemeral Stream	ephemeral	Riverine, ephemeral	R6	n/a	8	Str_0200	0.21	64	Upper Tehachapi Creek (HUC12)

Map Label	Feature Type	Hydro-period	Cowardin Class	Cowardin Code	HGM Code	Typical OHWM Width (Ft.)	Segment ID	Potential USACE Jurisdictional Area, Acres	Map Sheet(s)	HUC Watershed(s)
201	Seasonal Wetland	intermittent	Palustrine emergent	PEM	Riverine	--	SW_0201	0.1	64	Upper Tehachapi Creek (HUC12)
202	Desert Wash	ephemeral	Riverine, ephemeral	R6	n/a	3	Str_0202	0.02	64	Upper Tehachapi Creek (HUC12)
203	Basin	intermittent - artificial	Palustrine unconsolidated bottom	PUB	n/a	--	Basin_0203	0.2	66, 68	Proctor Lake (HUC12)
204	Seasonal Wetland	ephemeral	Palustrine emergent	PEM	Depress-ional	--	SW_0204	0.04	67	Proctor Lake (HUC12)
205	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0205	0.06	68	Upper Tehachapi Creek (HUC12)
206	Basin	perennial - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0206	6.89	68	Upper Tehachapi Creek (HUC12)
207	Basin	perennial - artificial	Palustrine emergent	PEM	Lacustrine	--	Basin_0207	6.66	68	Upper Tehachapi Creek (HUC12)
208	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0208	0.09	68	Proctor Lake (HUC12)
209	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0209	0.1	68	Proctor Lake (HUC12)
212	Basin	ephemeral	Palustrine unconsolidated bottom	PUBx	n/a	--	Basin_0212	0.96	72	Upper Tehachapi Creek (HUC12)

NOTES TO USERS

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...detailed information in areas where **Base Flood Elevations** ...dways have been determined, users are encouraged to consult ...ed and Floodway Data and/or Summary of Stillwater Elevations ...within the Flood Insurance Study (FIS) report that accompanies ...s should be aware that BFEs shown on the FIRM represent ...od elevations. These BFEs are intended for flood insurance ...only and should not be used as the sole source of flood ...tion. Accordingly, flood elevation data presented in the FIS ...be utilized in conjunction with the FIRM for purposes of ...or floodplain management.

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...Survey

...Highway

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...elevation descriptions, and/or location information for bench marks ...map, please contact the Information Services Branch of the ...t Survey at **(301) 713-3242**, or visit its website at ...ov/gpo/.

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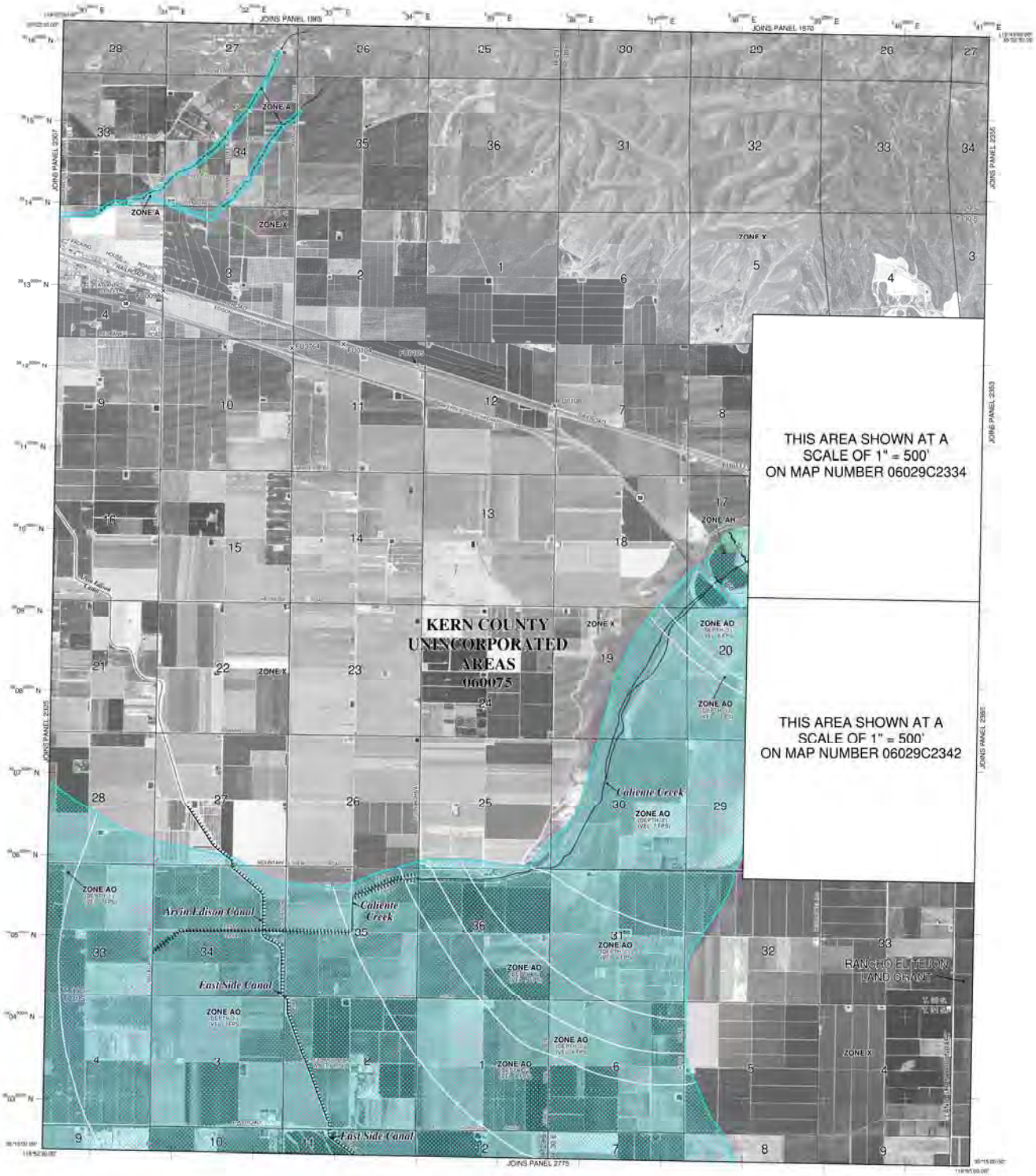
...estions about this map or questions concerning the National ...rogram in general, please call **1-877-FEMA MAP** (1-877-336-2627) ...website at http://www.fema.gov/.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

- ZONE A — No Base Flood Elevations determined.
- ZONE AE — Base Flood Elevations determined.
- ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
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- ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
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- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

- Cross section line
- Transect line
- 97°07'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4275000 N — 1000-meter Universal Transverse Mercator grid ticks, zone 11
- 6000000 M — 5000-foot grid ticks: California State Plane coordinate system, V zone (FIPSZONE 0405), Lambert Conformal Conic
- DS5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 26, 2008
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 2000'
1000 0 2000 4000 FEET
300 0 600 1200 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2350E

FIRM
FLOOD INSURANCE RATE MAP
KERN COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 2350 OF 4125
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KERN COUNTY	060075	2350	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject communities.

MAP NUMBER
06029C2350E

EFFECTIVE DATE
SEPTEMBER 26, 2008

Federal Emergency Management Agency

NOTES TO USERS

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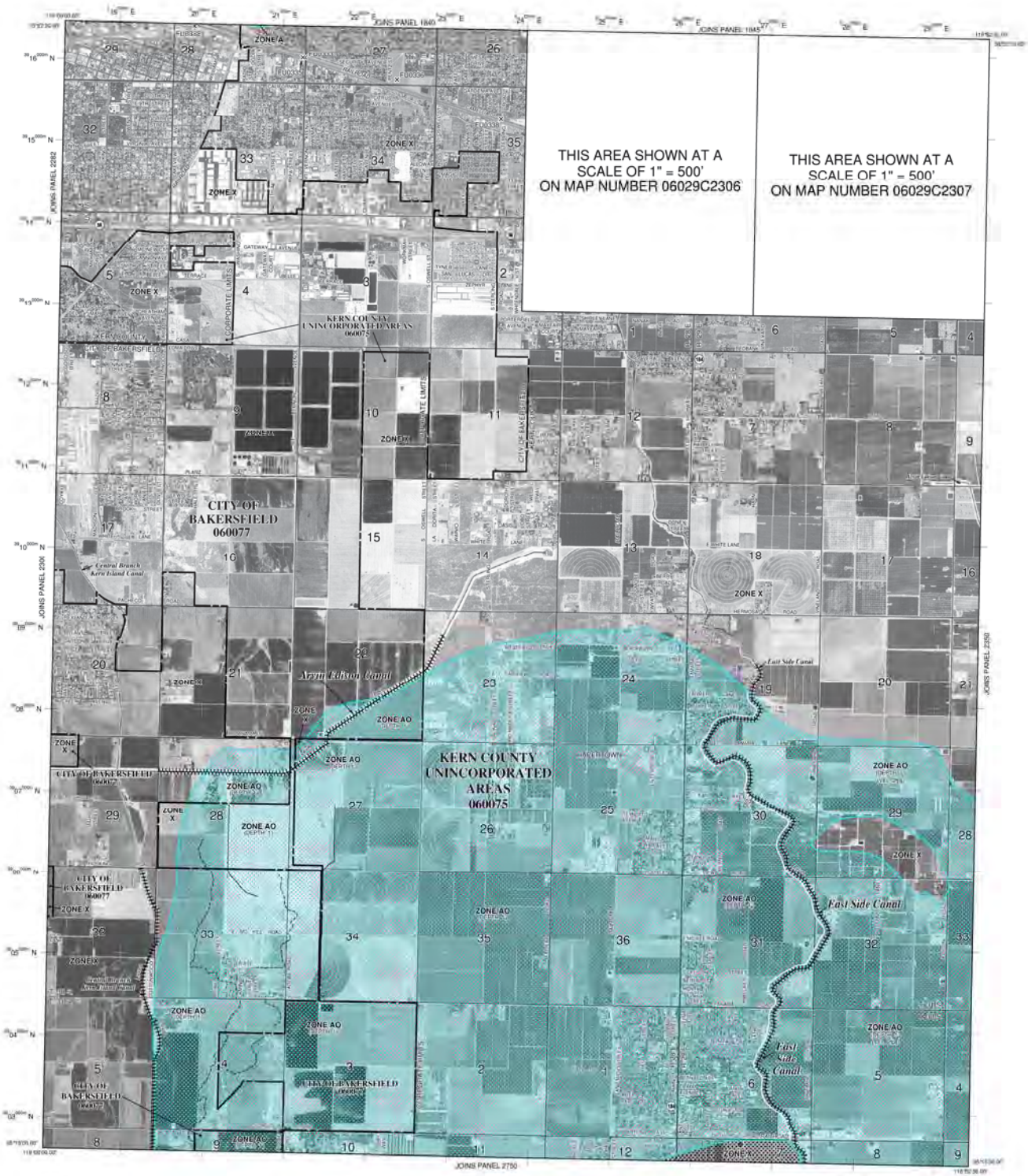

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- 4275000mN 1000-meter Universal Transverse Mercator grid ticks, zone 11
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- DX5510 Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 River Mile

MAP REPOSITORIES

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EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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MAP SCALE 1" = 2000'
1000 0 2000 4000 FEET
300 0 600 1200 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2325E

FIRM

FLOOD INSURANCE RATE MAP

KERN COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 2325 OF 4125

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KERN COUNTY	060075	2325	E
BAKERSFIELD, CITY OF	060077	2325	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 06029C2325E

EFFECTIVE DATE SEPTEMBER 26, 2008

Federal Emergency Management Agency

Photograph 1:
Project: Bena Sanitary Landfill (SPK-2014-00236)
Taken By: James Robb, USACE
Date: May 8, 2014

View looking from Malaga Road to the east at Caliente Creek. Caliente Creek ends at Malaga Road. There are not culverts or other evidence of a hydrologic connection with Caliente Creek to navigable waters.

Photograph 2:
Project: Bena Sanitary Landfill (SPK-2014-00236)
Taken By: James Robb, USACE
Date: May 8, 2014

View looking from Malaga Road to the northast at Caliente Creek. Caliente Creek ends at Malaga Road. There are not culverts or other evidence of a hydrologic connection with Caliente Creek to navigable waters.

Photograph 3:
Project: Bena Sanitary Landfill (SPK-2014-00236)
Taken By: James Robb, USACE
Date: May 8, 2014

View looking from Malaga Road to the south-east at Caliente Creek. Caliente Creek ends at Malaga Road. There are not culverts or other evidence of a hydrologic connection with Caliente Creek to navigable waters.

Photograph 4:
Project: Bena Sanitary Landfill (SPK-2014-00236)
Taken By: James Robb, USACE
Date: May 8, 2014

View looking south along the east shoulder of Malaga Road from the first power pole north of Caliente Creek. There is no drainage ditch along the road. Caliente Creek does not flow through a drainage ditch along the eastern side of Malaga Road to the north. During high flows, Malaga Road may flood with water from Caliente Creek.

Photograph 5:
Project: Bena Sanitary Landfill (SPK-2014-00236)
Taken By: James Robb, USACE
Date: May 8, 2014

View looking south along the east shoulder of Malaga Road from the first power pole north of Caliente Creek. There is no drainage ditch along the road. Caliente Creek does not flow through a drainage ditch along the eastern side of Malaga Road to the north. During high flows, Malaga Road may flood with water from Caliente Creek.

Photograph 6:
Project: Bena Sanitary Landfill (SPK-2014-00236)
Taken By: James Robb, USACE
Date: May 8, 2014

View looking north from the intersection of Malaga Road and Mountain View Road, approximately ½ mile to the north of the end of Caliente Creek There is no drainage ditch along the north or south sides of Mountain View Road to the east or west.

Photograph 7:
Project: Bena Sanitary Landfill (SPK-2014-00236)
Taken By: James Robb, USACE
Date: May 8, 2014

View looking east at the shoulder of Mountain View Road, west of the location in Photograph 6. south along the east shoulder of Malaga Road from the first power pole north of Caliente Creek. There is no drainage ditch along the north or south sides of Mountain View Road to the east or west.

Photograph 8:
Project: Bena Sanitary Landfill (SPK-2014-00236)
Taken By: James Robb, USACE
Date: May 8, 2014

View looking west from the east side of Edison Road, approximately ½ mile north of Mountain View Road. There is no drainage ditch located along the east or west sides of Edison to carry flows from Caliente Creek to the ditch shown in this photographs.

Photograph 9:
Project: Bena Sanitary Landfill (SPK-2014-00236)
Taken By: James Robb, USACE
Date: May 8, 2014

View looking west from the east side of Edison Road, approximately ½ mile north of Mountain View Road. There is no drainage ditch located along the east or west sides of Edison to carry flows from Caliente Creek to the ditch shown in this photographs.

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Project: Bena Sanitary Landfill (SPK-2014-00236)
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Thursday, Feb 09 2006 04:05 PM

Lamont should brace for future flood waters

By STUART PYLE

With winter coming on, it seems a little rain would be a good thing for Kern County. But then I think about a possible five inch rain centere over Caliente Creek, like the one in Los Angeles recently. I worry about what might happen in Lamont.

Even though Kern County has made expensive improvements to some areas where Lamont gets flooded, some changes made at th Tamarisk levee-dam have created a disaster waiting to happen.

Over the past three years, the county has spent about $8 million on three flood projects for Lamont that give more storage for flood wate coming down Panama Road, open up the drain ditches on the west side of the tracks on Panama Road and divert flood water around th Reynolds Tract area.

With this new work and the same size floods as in 1995 and 1998 when Caliente Creek flood water made a mess of Lamont, it is possible tha the roads would still be flooded, but Lamont might get by with little or no damage.

In all past floods, a good share of the water has flowed through openings in the Tamarisk levee-dam and made its way into natural channel south of Arvin. What is different now is that all of the openings in the levee have been blocked with dirt and concrete blocks right up to th top.

That means that all of the flood water from Caliente Creek will be turned to the west and flow through artificial channels or on the count roads right into Lamont. The new plugs were put in after the 1998 flood.

Why doesn't someone do something about this? The county has spent millions on Lamont flooding but seems to ignore that the levee-dam creates an unnatural condition. The Tamarisk levee-dam did not exist when the largest known flood happened in 1932. After that, the leve was put up and trees were planted on it. Now, it is two and a half miles long, 20 feet high in some places, and reinforced with concret blocks, and old car bodies. A solid barrier.

Does the county know about it? Well, it has certainly been told about it many times. It seems to believe it is absolved of any responsibilit for damage the levee might cause as the results of several recent lawsuits.

It is willing to include remedial actions in the list of projects that make up a long-range Kern Lake Basin Flood Management Plan that wa adopted earlier this year. However, those actions depend on massive financing and might take 20 or 40 years before any actual floo channels and floodwater disposal areas come into being.

In the meantime, Lamont sits there with the full potential for all the flood water from Caliente Creek smashing into it. Is it possible tha Lamont, once a depression-era haven for refugees from the Dust Bowl and now a center for a large Hispanic population, is suffering from the stigma of second class citizenship?

Why and where else would this potentially dangerous situation be allowed to persist?

Stuart Pyle, engineering consultant to the Lamont Storm Water District and former general manager of the Kern County Water Agency.

Tuesday, Dec 21 2010 07:22 PM

Lamont canal survives storm

BY GRETCHEN WENNER, Californian staff writer gwenner@bakersfield.com

LAMONT -- Lamont residents were again spared major flooding Tuesday as officials continued efforts to keep a canal from breaking.

Their worst fears -- that the Eastside Canal wouldn't be able to hold all of the floodwater pouring into it -- were kept in check as rainfa eased overnight. But work shoring up the canal's weak spots was still needed.

The canal broke in numerous places in 1983, contributing to an epic flood. Lamont, a community about 15 miles southeast of Bakersfield was flooded again in 1995 and 1998, though the canal held those years.

Mark Mulkay, general manager of the Kern Delta Water Storage District, which owns the canal, was busy putting out fires Tuesday.

He'd been working all day to fix a section above Bear Mountain Boulevard, perhaps 100 feet long, that had broken around 10:30 p.m Monday, unleashing water over farmland and near some homes.

On Tuesday, a small leak where the canal crossed Di Giorgio Road had sent water flowing toward houses in central Lamont, panickin residents. Such little overpours aren't necessarily a bad thing.

"It spreads out the hurt," he said.

But county firefighters had patched the leak, which caused more headaches: A worker downstream had been on a tractor in the canal. Th sudden rise in water levels endangered him and left the tractor submerged.

"The problem is, it dead ends," Mulkay said of the canal.

That means Mulkay has to find places for excess water to go as floodwater enters the canal. So far, farmers have agreed to take water the don't need to help prevent catastrophe.

"This is not a flood control structure," Mulkay said. "It's an irrigation canal."

Other canals owned by the district have also served as an outlet to ease flooding in Bakersfield and elsewhere, he said.

The Eastside Canal runs more than 18 miles from the Kern River, near Manor Street, to a spot below Bear Mountain Boulevard, west o Arvin.

While a break from rain meant the worst problems were under control Tuesday, Kern County officials went ahead with a plan to pum water from the canal into a new storm drain system on Panama Road.

Workers from water-handling company Rain for Rent were installing three large pumps Tuesday afternoon, each capable of handling 4 cubic feet per second.

"They are big pumps," said Chuck Lackey, head of the county's engineering department.

Lackey hopes the pumps, which were ordered Monday night, will take pressure off the canal. The pumping may no longer be needed for th current storm, but Lackey wants the system tested anyway.

"If there is a flood in the future, it will be another tool we can use," he said.

The county's new storm drain system, which was built around 2004 and routes water west of town through a series of basins and drainfield, was given its first big test by the weekend downpours.

"It's extremely successful," Lackey said of the structure.

A breach of the canal north of town, by Kam Avenue, allowed floodwaters to pour into the canal. The county had also designed a floo control system there, but the sheer volume of Caliente Creek floodwater exceeded the system's capacity, Lackey said.

Some residents narrowly escaped flooding that swamped some streets.

Ruby Garcia's family piled sandbags to keep water out of their home on Mountain View Road on Monday, as did neighbors. Water cam over the driveway, almost to the front door, but stopped just feet from the house.

"It's pretty scary when you see water coming up right here," Garcia said Tuesday.

Residents in Arvin, Lamont threatened by creek flooding
By Amity Addrisi, Eyewitness News Published: Dec 20, 2010 at 7:28 PM PDT Last Updated: Dec 20, 2010 at 7:28 PM PDT


»Play Video

Related Content

- Record rainfall closes roads, prompts evacuations
- List: Kern County roads closed for flooding
- Calif. rain shatters records, and more is coming

ARVIN, Calif. -- As the rainfall continued, storm water basins in Lamont were getting dangerously full, threatening to flood homes nearby.

Juan Esquivel lives near the Caliente Creek storm flood water basin where the levees are close to capacity. Esquivel said, "My concern is that water is going to go in the houses, because we're so close to the canals, we're already in a flood zone risk."

Through the storm, Esquivel is holding his breath, hoping his home doesn't end up under water and plans to use sandbags to protect his home. The threat of water flooding over the levees in Lamont is a big concern and caused the evacuation of a the Lamont Children's Development Center on Monday afternoon.

Caliente Creek is causing more problems up stream near Arvin. There, the raging water is washing away the land near one home off Comanche Road. Hugo Figueroa lives there and says the fire department told him and his family to evacuate.

The Caliente Creek flood channel at Comanche Road was built in the 1990s to protect from flooding, but, with the record rainfall, dirt and debris has clogged the system, causing the base of the bridge to erode.

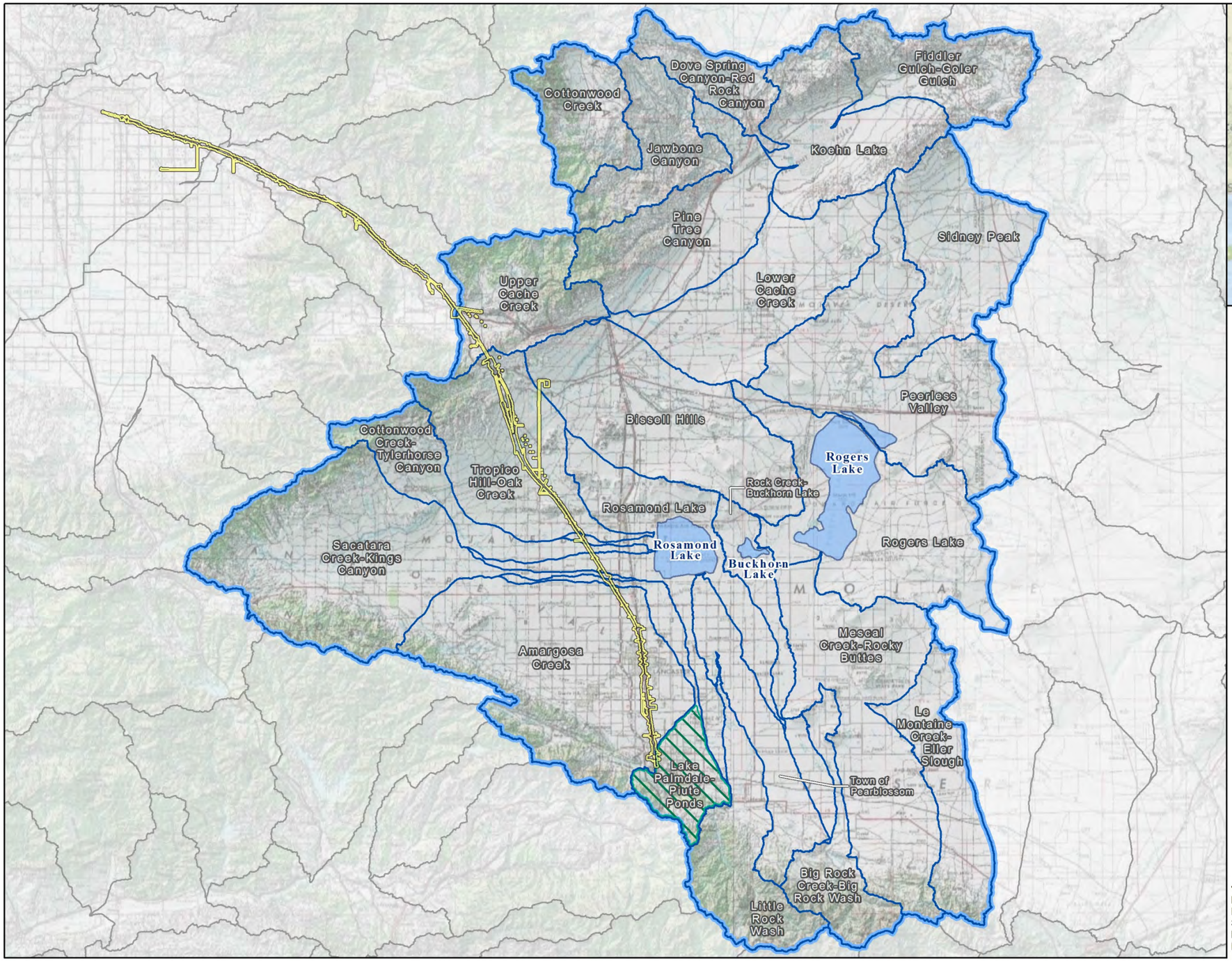
Because of the damage to the bridge, Comanche Road at Caliente Creek is closed indefinitely. Getting around that closure is almost impossible. Flooding has washed out

several roads between Lamont and Arvin, including Malaga and Vineland roads.

Back in Lamont home owners like Esquivel say they can only watch and wait.

"I am gonna stay awake and see what's going on, because I have a friend up in the lake, he told me it's raining a lot and all that rain is coming down here and here it doesn't stop raining either," Esquivel said.

The Kern County Roads Department and the Kern County Fire Department are working to try to divert the flooding away from homes.



Antelope-Fremont Valleys HUC-8

HUC-10 Watersheds

Lake Palmdale HUC-12 Watershed

Wetlands Study Area
(Project Footprint + 250 ft Buffer)

N

0 10 20
Miles

0 16 32
Kilometers

Antelope-Fremont Valleys Watershed Overview

July 5, 2017

PRELIMINARY DRAFT/SUBJECT TO CHANGE -
HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2017); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/ National Hydrography Dataset (2015).

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

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

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): August 25, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: SPL-2010-00945-VCL-JD-1

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: CA County/parish/borough: Kern County City: N/A
Center coordinates of site (lat/long in degree decimal format): Lat. 35.038628° **N**, Long. -118.285486° **W**.
Universal Transverse Mercator: 382749 m E, 3878082 m N
Name of nearest waterbody: Nearest named stream is Oak Creek in adjacent watershed to the west.
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: N/A
Name of watershed or Hydrologic Unit Code (HUC): Bissell Hills (California), HUC10 #1809020620
☒ 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: July 25, 2017
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are 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 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: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Not Applicable.**
      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:
   Within the project area of the Bissel Hills HUC 10, there are a total of 8 aquatic features. These features are all segments of unnamed ephemeral desert wash stream features, spanning a total of approximately 3,168 linear feet (0.60 mile) and covering approximately 0.29 acre. These features are quantified in this analysis and identified in the attached report to demonstrate that all surface aquatic resources in the study area were evaluated to determine their

[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.

type and water source, and to investigate for connections to waters of the U.S. Labeled maps and tables of aqautic features and dimensions are provided in the Aquatic Resources Delineation Report, which identifies each feature according to which HUC-10 watershed it occurs within.

The unnamed ephemeral desert streams, features Str_0313 through Str_0317 flow offsite toward Rogers Dry Lake (note that features Str_0314 and Str_0316 have multiple segments and are labeled as such in attached tables [e.g. Str_0314-001, Str_0314-002, etc.]). The features in the study area are ephemeral streams that are not used for commerce. Downstream of the study area, these features dissipate and do not have a defined channel that can be traced all the way to the terminal point in the watershed. These features are similar to many other streams in the Antelope Valley Watershed that have well-defined channels where they originate in the mountains and foothills, but dissipate on the valley floor, where water movement during storms is primarily sheet flow. The hydrologic connection to the low point in the Antelope Valley watershed, Rogers, Rosamond, and Buckhorn Dry Lakes, is primarily through sheet flow during storms. A review of topographic maps and watershed boundary datasets indicates that waters from the study area drain toward Rogers Dry Lake.

There are no Traditional Navigable Waters (TNWs) or Relatively Permanent Waters (RPWs) in the study area, and the ephemeral desert streams in the study area are not tributaries to RPWs or TNWs. A previous SWANCC watershed-level Approved JD for Antelope Valley (HUC10 #s 1809020609 through 1809020624, excluding those portions of HUC12s 18090206151, 1901902061102, and 180902061103 that drain toward Lake Palmdale and its tributaries) determined that Rosamond, Buckhorn and Rogers Dry Lakes, and their tributaries, (i.e. the Antelope Valley Watershed, excluding Lake Palmdale and tributaries to Lake Palmdale) are non-jurisdictional waters of the United States under SWANCC. This determination, SPL-2011-01084-SLP, dated June 7, 2013, found that these Antelope Valley waters are not tributary to either a TNW or an (a)(3) water and Rosamond, Buckhorn and Rogers Dry Lakes are not (a)(3) waters themselves. The Corps made this watershed conclusion because the Antelope Valley watershed is an isolated, intrastate watershed without any surface water related interstate commerce. This previous determination is still in effect, and is appended as a supporting document for this determination.

The above is based upon the review of aerial photographs (Google Earth, accessed July 25, 2017) that also did not show surface water usage of the project drainages or the Rosamond Dry Lake terminus. Since the Rosamond Dry Lake is an intrastate, isolated water without a surface water connection to commerce (see prior AJD file No. SPL-2011-01084-SLP), the subject eight ephemeral desert stream segments, as part of the same overall system, are also isolated and additionally have no nexus to commerce.

Based on the information above, the subject eight ephemeral desert stream segments, are NONJURISDICTIONAL waters of the United States, since the waters are NOT tributary to either a TNW or an (a)(3) water and are NOT (a)(3) waters themselves. The Corps makes such a conclusion since the waters are tribuatary to an isolated, intrastate dry lake.

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 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: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

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

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

[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.

(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: feet
Average depth: feet
Average side slopes: **Pick List.**

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: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

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

Subsurface flow: **Pick List**. 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	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

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

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

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

[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.

(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: .
  - ☐ 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

(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: .

(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: .

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: 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.**
☐ 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: .

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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.*

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

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

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☒ Non-wetland waters (i.e., rivers, streams): **3,168** linear feet **averaging 2-8 feet in** width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

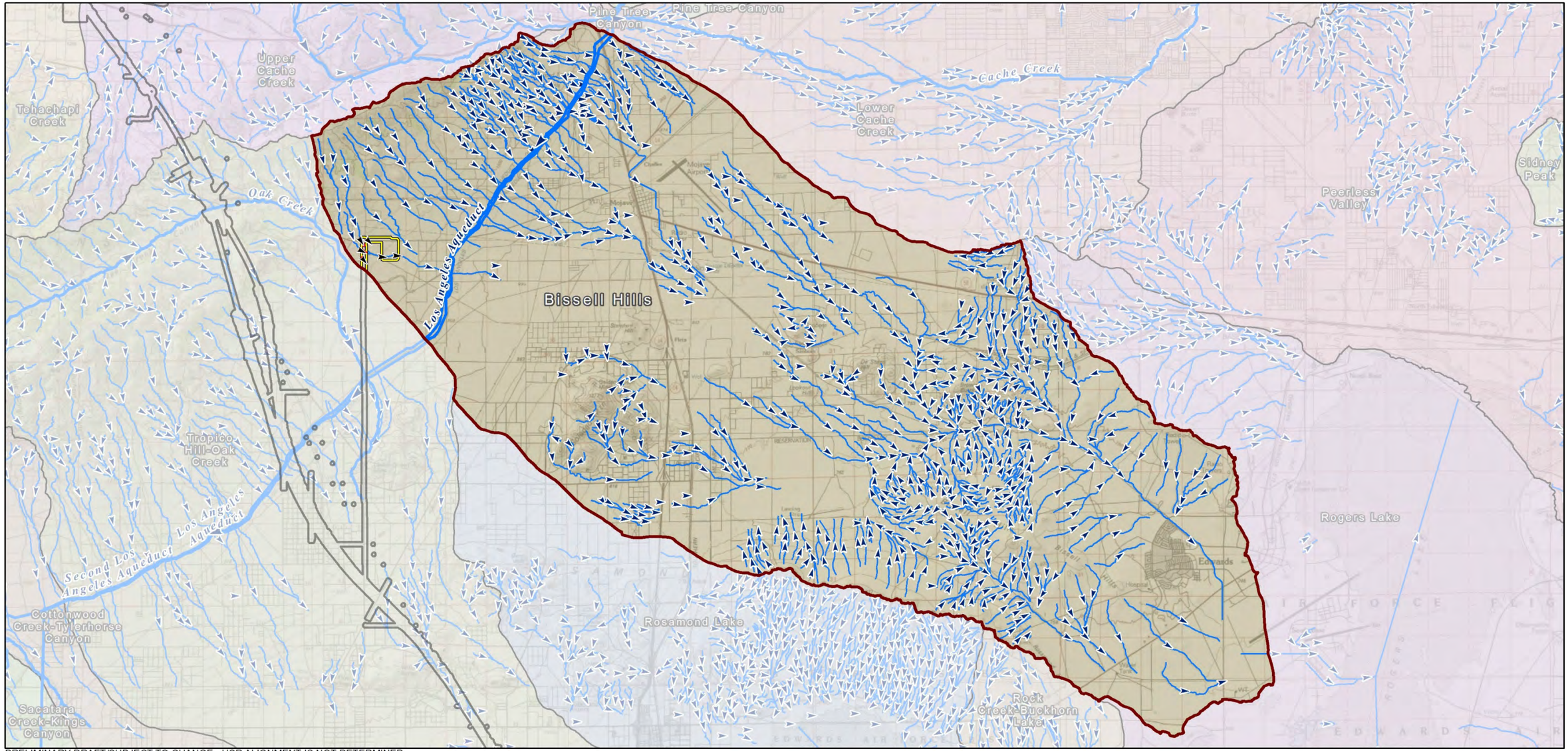
Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Features are depicted on Map Sheets 119-121 in Appendix E of the submitted delineation.
☐ 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: See enclosed map package for NHD flowline and watershed boundary data.
☒ USGS NHD data.
☒ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: Monolith 7.5 minute quadrangle (See enclosed map package).
☐ 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): NAIP Imagery 2005 and 2014 at 1-m resolution; Kern County Imagery 2010 and 2014 at 1-foot resolution.
or ☐ Other (Name & Date): .
☒ Previous determination(s). File no. and date of response letter: SPL-2011-01084-SLP, June 7, 2013.
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify): Aquatic Resources Delineation Report prepared by the applicant/consultant references additional materials, including soil survey and National Wetlands Inventory data; also note Appendix E contains map sheets; Appendix F contains dimensions. HUC watershed maps of review areas with NHD Data provided by the applicant/consultant.

B. ADDITIONAL COMMENTS TO SUPPORT JD:

Waters_Name	Cowardin_Code	HGM_Code		Amount	Units	Latitude	Longitude
Str_0313	R6	RIVERINE	0.04	ACRE	35.0372307		-118.2928298
Str_0314-001	R6	RIVERINE	0.05	ACRE	35.0307880		-118.2916851
Str_0314-002	R6	RIVERINE	0.07	ACRE	35.0319180		-118.2928668
Str_0315	R6	RIVERINE	0.01	ACRE	35.0380074		-118.2902115
Str_0316-001	R6	RIVERINE	0.02	ACRE	35.0324157		-118.2841035
Str_0316-002	R6	RIVERINE	0.02	ACRE	35.0339833		-118.2916350
Str_0316-003	R6	RIVERINE	0.03	ACRE	35.0345850		-118.2927434
Str_0317	R6	RIVERINE	0.05	ACRE	35.0328932		-118.2776952.



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

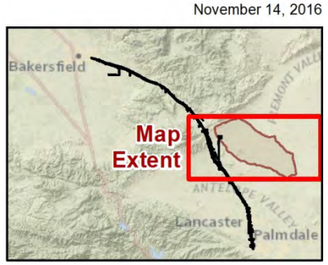
November 14, 2016

N

0 1.5 3
Miles
0 2.5 5
Kilometers

BP HSR Mapped Streams with OHWM in Bissell Hills Watershed Study Area

- Culvert
- Ephemeral Stream
- Study Area in the Bissell Hills Watershed
- Bissell Hills Watershed HUC-10
- Other HUC-10 Watersheds
- Wetlands Study Area (Project Footprint + 250 ft Buffer)
- Direction of flow based on NHD flowlines



Bissell Hills Watershed Hydrologic Connectivity

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 14, 2016

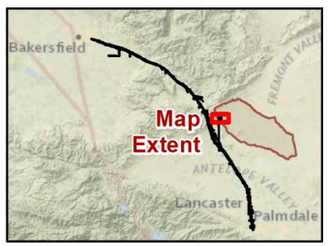
N

0 0.2 0.4
Miles
0 0.3 0.6
Kilometers

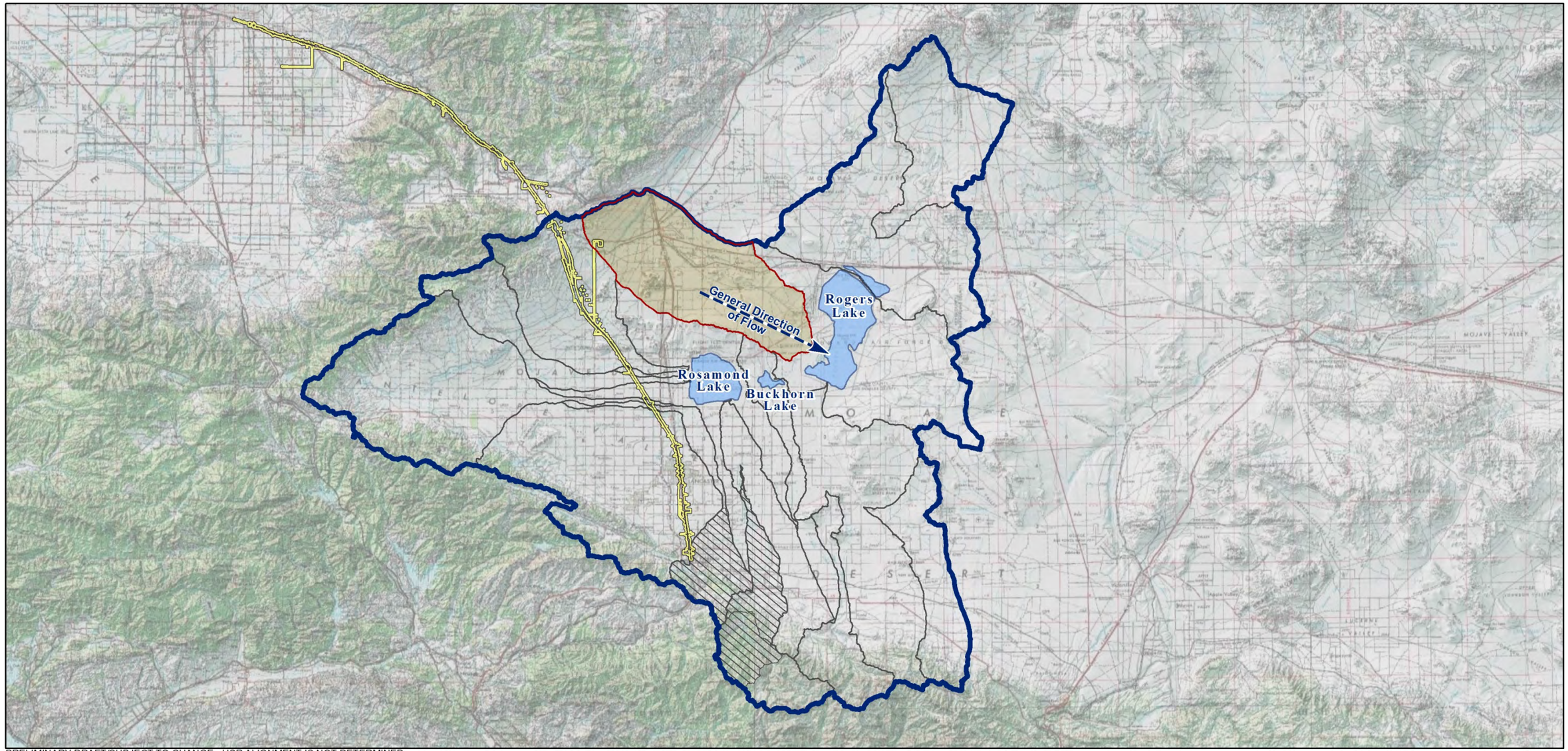
BP HSR Mapped Streams with OHWM in Bissell Hills Watershed Study Area

- Culvert
- Ephemeral Stream

- Study Area in the Bissell Hills Watershed
- Bissell Hills Watershed HUC-10
- Wetlands Study Area (Project Footprint + 250 ft Buffer)
- Direction of flow based on NHD flowlines



Bissell Hills Watershed Study Area Hydrologic Connectivity



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: ESRI/USGS Topographic Basemap (2016); USGS 30m Hillshade (2015); Phase 4B Engineering data from CaHSRA (4/2016); Watershed Boundary Dataset/National Hydrography Dataset (2015).

November 17, 2016

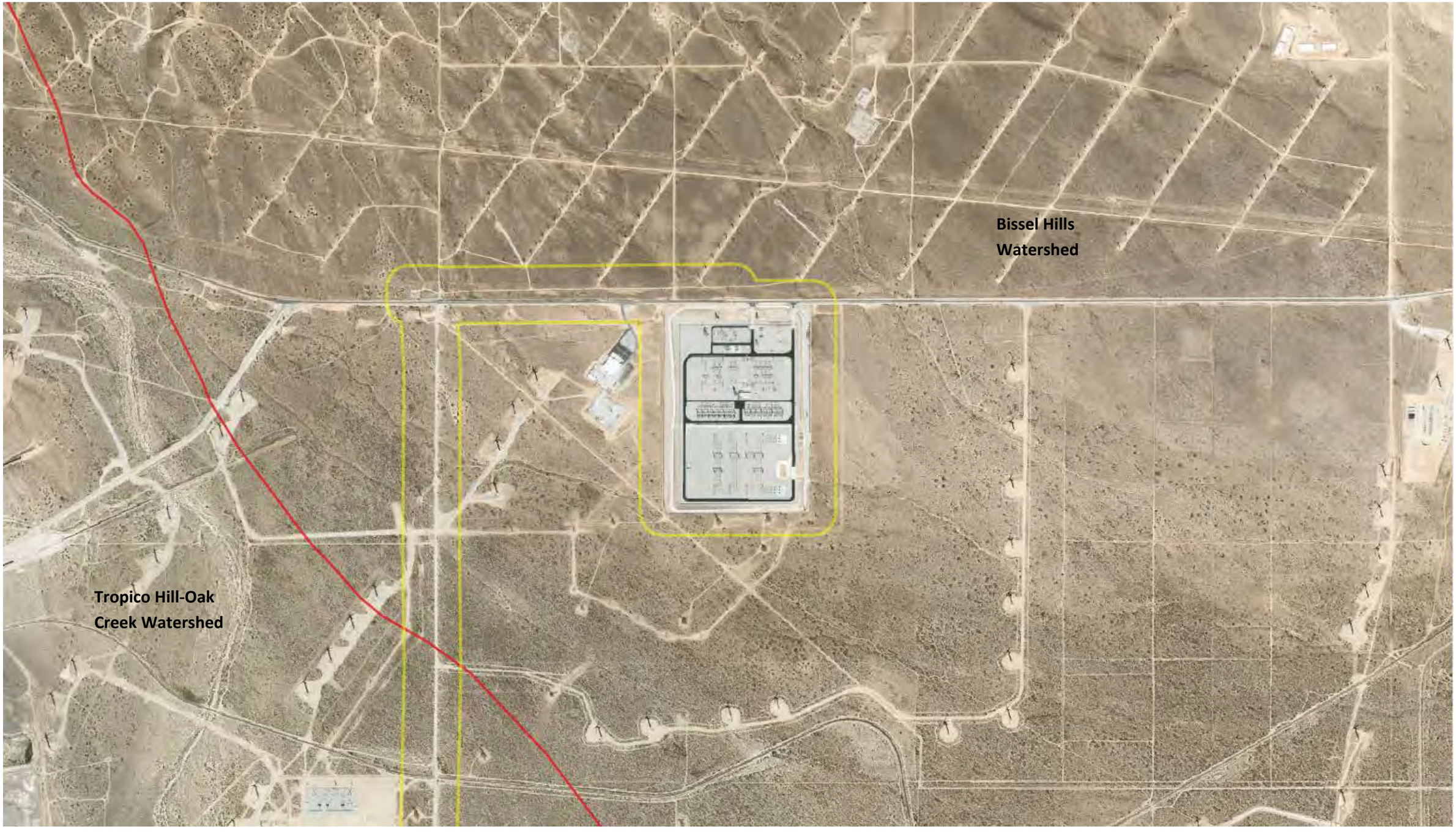
N

0 5 10
Miles
0 8 16
Kilometers

- Bissell Hills Watershed HUC-10
- Antelope Valley Watershed (as described in SPL-2011-01084-SLP)
- HUC-12 Watersheds excluded from SPL-2011-01084-SLP
- Wetlands Study Area (Project Footprint + 250 ft Buffer)

The U.S. Army Corps of Engineers issued a SWANCC watershed-level Approved Jurisdictional Determination for Antelope Valley (HUC 10 #s 1809020609 through 1809020624) on June 7, 2013. Note that this determination specifically excluded the areas of Lake Palmdale and all waters tributary to Lake Palmdale (portions of HUC 12 #s 180902061501, 180902061102, 180902061103). This figure illustrates the location of the study area relative to the previous watershed-level decision.

Bissell Hills Watershed
Location Within Antelope Valley Watershed



Kern County 2014 Aerial Photo. Yellow Line – Study Area. Red Line – HUC 10 Watershed Boundaries.

Kern County 2010 Aerial Photo. Yellow Line – Study Area. Red Line – HUC 10 Watershed Boundaries.

NAIP 2005 Aerial Photo. Yellow Line – Study Area. Red Line – HUC 10 Watershed Boundaries.