Appendix A2

1602 Streambed Alteration Agreement

APPENDIX A2

1602 Streambed Alteration Agreement

AECOM
401 West A Street
Suite 1200
San Diego, CA 92101
www.aecom.com

619.610.7600 tel
619.610.7601 fax

August 12, 2019

Distributed via E-mail to:
Ali.Aghili@wildlife.ca.gov

Ali Aghili
Senior Environmental Scientist (Supervisor)
California Department of Fish and Wildlife
Region 6 (Inland Deserts Region)
3602 Inland Empire Blvd.
Ontario, CA 91764

Re: InterConnect Ash Hill Communications Site, San Bernardino County, CA; Request for Streambed Alteration Agreement and CEQA Lead Agency.

Dear Mr. Aghili:

This letter with enclosures is a request for an California Department of Fish and Wildlife (CDFW) Fish and Game Code Section 1602 Streambed Alteration Agreement for the proposed Ash Hill Communications Site project (proposed project). Attached is Form 2023, and Attachments A – E. A fee check for $748.00 is attached to this submittal. An application for an Incidental Take Permit (ITP), per the California Endangered Species Act (CESA), will be forthcoming in the coming weeks.

In addition, given that this project does not have a lead state agency for the California Environmental Quality Act (CEQA) process, InterConnect Towers, LLC (project proponent) formally requests for CDFW to be the lead state agency for this project. It is assumed that the appropriate CEQA document will be a Mitigated Negative Declaration (MND).

The project proponent proposes to construct, operate, and maintain a multi-carrier communication site and ancillary components, including an access road, on Bureau of Land Management (BLM)-administered land. The proposed communication site is generally located in San Bernardino County, California, approximately 7.8 miles east of Ludlow, California, just south of the Interstate 40 (I-40) right-of-way (ROW). The proposed Project is also approximately 340 feet within the boundaries of the Mojave Trails National Monument (MTNM), and is Bureau of Land Management-administered land.

The proposed project (access road) crosses Bristol Mountains Wash and is situated within the Southern Mojave Watershed (HUC-8) which is an isolated watershed system that has no surface water connection to navigable waters. A request for concurrence that the desert washes within the project area are geographically isolated waters, and thus not regulated by the U.S. Army Corps of Engineers (USACE), has been submitted.

Previous agency coordination has centered around the preparation of a National Environmental Policy Act (NEPA) Environmental Assessment (EA), and subsequent Finding of No Significant Impact (FONSI). The lead federal agency is BLM. Otherwise, the applicant will also be coordinating with the Regional Water Quality Control Board (RWQCB), Colorado River Region 7, for a Waste Discharge Requirement (WDR) per the Porter-Cologne Water Quality Control Act.

If you have any questions or require additional information, please contact me at Erik.Larsen@aecom.com or 714.648.2043.

Sincerely,

Erik S. Larsen

Erik S. Larsen, D.Env.
Sr. Wetland Scientist / Regulatory Specialist

cc: Tom Gammon, InterConnect Towers, LLC
J. Russell Hansen, Bureau of Land Management

Attachments:

Section 1602 Streambed Alteration Agreement Notification Form 2023

Attachment A1. Responses to Notification Form Boxes 8 – 12.

Attachment A2. Figures 1 – 3, 6A-6C from JD Report (AECOM 2019)

Attachment A3. Engineering Plans (Revised Plans; dated June 7, 2016)

Attachment B. Jurisdictional Delineation Report (AECOM 2019)

Attachment C. Sensitive Species - Potential for Occurrence Tables
(*Adapted from Ash Hill Biological Assessment and Desert Tortoise Survey Report [2017]*)

Attachment D1. Applicant Proposed Measures
(*Adapted from Ash Hill Environmental Assessment [2018]*)

Attachment D2. Restoration Techniques
(*Adapted from Ash Hill Section 2081 Application*)

Attachment E. Other Documents
E1. NEPA Environmental Assessment (2018)
E2. Biological Assessment and Desert Tortoise Survey Report (2017)

SAA Notification fee check for $748.00

Ash Hill Communication Site Project
InterConnect Towers, LLC

FOR DEPARTMENT USE ONLY				
Date Received	*Amount Received*	*Amount Due*	*Date Complete*	*Notification No.*
	$	$		
Assigned to:				

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

Complete EACH field, unless otherwise indicated, following the instructions and submit ALL required enclosures, attachments, and fee(s) to the CDFW regional or field office that serves the area where the project will occur. Attach additional pages to notification, if necessary.

1. APPLICANT PROPOSING PROJECT

Name	Tom Gammon
Business/Agency	InterConnect Towers, LLC
Mailing Address	27762 Antonio Parkway, #471
City, State, Zip	Ladera Ranch, CA 92694
Phone Number	202.255.7777
Email	tom@ictowers.com

2. CONTACT PERSON (*Complete only if different from applicant.*)

Name	Erik Larsen, D.Env.
Business/Agency	AECOM Environment
Mailing Address	999 Town & Country Road, 2nd Floor
City, State, Zip	Orange, CA 90808
Phone Number	714.648.2043
Email	erik.larsen@aecom.com

While an applicant is legally responsible for complying with Fish and Game Code section 1602 et seq., an applicant may designate and authorize an agent (e.g., lawyer, consultant, or other individual) to act as a Designated Representative. The Designated Representative is authorized to sign the notification and any agreement on behalf of the Applicant.

Do you authorize the Contact Person above to represent you as your Authorized Designated Representative?

☑ Yes, I authorize.	☐ No, I do not authorize.

3. PROPERTY OWNER (*Complete only if different from applicant*)

Name	Bureau of Land Management (BLM); Needles Field Office (Contact: J. Russell Hansen)
Mailing Address	1303 S. U.S. HWY 95
City, State, Zip	Needles, CA 92363
Phone Number	760.326.7008
Email	jhansen@blm.gov

Ash Hill Communication Site Project
InterConnect Towers, LLC

4. PROJECT NAME AND AGREEMENT TERM

A. Project Name	Ash Hill Communications Site Project			
B. Agreement Term Requested	☑ Regular (*5 years or less*) ☐ Long-term (*greater than 5 years)*			
C. Project Term	Beginning (*year*)	2019	Ending (*year*)	2020

D. Seasonal Work Period

Season(s)*	Start Date (*month/day*)	End Date (*month/day*)	E. Number of Work Days
1	11/01	05/01	120
2			
3			
4			
5			

* Note: Road Work = 30 working days; Work within washes = 10 working days or less. The 120 day period is a window during which the work may occur.

5. AGREEMENT TYPE

Check the applicable box. If boxes B – F are checked, complete the specified attachment.

A.	☑ Standard *(Most construction projects, excluding the categories listed below)*	
B.	☐ Gravel/Sand/Rock Extraction (*Attachment A*)	*Mine I.D. Number:* _____
C.	☐ Timber Harvesting (*Attachment B*)	*THP Number:* _____
D.	☐ Water Diversion/Extraction/Impoundment (*Attachment C*)	*SWRCB Number:* _____
E.	☐ Routine Maintenance (*Attachment D*)	
F.	☐ Cannabis Cultivation (*Attachment E*)	
G.	☐ CDFW Grant Programs	*Agreement Number:* _____
H.	☐ Master	
I.	☐ Master Timber Operations	

Ash Hill Communication Site Project
InterConnect Towers, LLC

6. FEES

See the current fee schedule to determine the appropriate notification fee. Itemize each project's estimated cost and corresponding fee. ***Note: CDFW may not process this notification until the correct fee has been received.***

	A. Project Name	B. Project Cost	C. Project Fee
1	Ash Hill Communications Site Project	$9,000	$748.00
2			
3			
4			
5			
6			
7			
8			
9			
10			
		D. Base Fee *(if applicable)*	
		E. TOTAL FEE*	$748.00

NOTE: The portion of the project applicable to the SAA is the access road. Cost of the road segment in the wash is estimated to be less than $10,000.

** Check, money order, and Visa or MasterCard (select Environmental Fees from Menu) payments are accepted.*

7. PRIOR NOTIFICATION AND ORDERS

A. Has a notification previously been submitted to, or a Lake or Streambed Alteration Agreement previously been issued by, CDFW for the project described in this notification?

☐ Yes (*Provide the information below*) ☑ No

Applicant	Notification Number	Date
n/a	n/a	

B. Is this notification being submitted in response to a court or administrative order or notice, or a notice of violation (NOV) issued by CDFW?

☐ Yes ☑ No (*Enclose a copy of the order, notice, or NOV. If the applicant was directed to notify CDFW verbally rather than in writing, identify the person who directed the applicant to submit this notification, the agency he or she represents, and describe the circumstances relating to the order.*)

Name of person who directed notification	Agency
n/a	n/a

Describe circumstances relating to order

n/a

☐ *Continued on additional page(s)*

8. PROJECT LOCATION

A. Address or description of project location.
(*Include a map that marks the location of the project with a reference to the nearest city or town, and provide driving directions from a major road or highway.*)

The proposed communication site is in San Bernardino County, California, approximately 7.8 miles east of Ludlow, California, just south of the I-40 ROW. The center of the proposed communication tower would be located at 34.716083°N, -116.022958°W at an elevation of approximately 2,070 feet above mean sea level. The proposed site, the access road, and all ancillary components would be entirely on BLM-managed lands. The existing access road begins approximately 8.5 miles to the southeast of Ludlow, California, along U.S. Route 66 at 34.679686°N, -116.025251°W.

See Attachment A2 – Figure 1 for a regional location map; Figure 2 for a local vicinity aerial photo of the area; and Figure 3 for a topographic map.

☐ *Continued on additional page(s)*

B. River, stream, or lake affected by the project.	Bristol Mountain Wash
C. What water body is the river, stream, or lake tributary to?	Bagdad/Bristol Lake
D. Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts?	☐ Yes ☑ No ☐ Unknown
E. County	Riverside County

F. USGS 7.5 Minute Quad Map Name	G. Township	H. Range	I. Section	J. ¼ Section
Ash Hill	7N	9E	11	NW

☐ *Continued on additional page(s)*

K. Meridian (check one) ☐ Humboldt ☐ Mt. Diablo ☑ San Bernardino

L. Assessor's Parcel Number(s)

Nine Total Parcels (access road):	APN 055706108; see Attachment A1 for others.
One Parcel (nearby communications site):	APN 055706108

☑ *Continued on additional page(s)*

M. Geographic coordinates (*Provide the latitude and longitude coordinates for the property where the project(s) will take place. CDFW utilizes decimal degrees and WGS 84 datum. Access Google Maps Help if you need assistance in finding your coordinates.)*

Latitude/Longitude	*Latitude:* 34.716035	*Longitude:* -116.023093
	Latitude: ##.#####	*Longitude:* -###.#####
	Latitude: ##.#####	*Longitude:* -###.#####
	Latitude: ##.#####	*Longitude:* -###.#####
	Latitude: ##.#####	*Longitude:* -###.#####

Ash Hill Communication Site Project
InterConnect Towers, LLC

9. PROJECT CATEGORY

WORK TYPE	NEW CONSTRUCTION	REPLACE EXISTING STRUCTURE	REPAIR-MAINTAIN-OPERATE EXISTING STRUCTURE
Bank stabilization – bioengineering/recontouring	☐	☐	☐
Bank stabilization – rip-rap/retaining wall/gabion	☐	☐	☑
Boat dock/pier	☐	☐	☐
Boat ramp	☐	☐	☐
Bridge	☐	☐	☐
Channel clearing/vegetation management	☐	☐	☐
Culvert	☐	☐	☐
Debris basin	☐	☐	☐
Dam	☐	☐	☐
Filling of wetland, river, stream, or lake	☐	☐	☐
Geotechnical survey	☐	☐	☐
Habitat enhancement – revegetation/mitigation	☐	☐	☐
Levee	☐	☐	☐
Low water crossing	☐	☐	☐
Road/trail	☐	☐	☑
Sediment removal: pond, stream, or marina	☐	☐	☐
flood control	☐	☐	☐
Storm drain outfall structure	☐	☐	☐
Temporary stream crossing	☐	☐	☑
Utility crossing: horizontal directional drilling	☐	☐	☐
jack/bore	☐	☐	☐
open trench	☐	☐	☐
Water diversion without facility	☐	☐	☐
Water diversion with facility	☐	☐	☐
Other *(specify)*:	☐	☐	☐

10. PROJECT DESCRIPTION

A. Describe the project in detail. Include photographs of the project location and immediate surrounding area.

- Written description of all project activities with detailed step-by-step description of project implementation.
- Include any structures (e.g., rip-rap, culverts) that will be placed or modified in or near the stream, river, or lake, and any channel clearing.
- Specify volume, and dimensions of all materials and features (e.g., rip rap fields) that will be used or installed.
- If water will be diverted or drafted, specify the purpose or use and include Attachment C.
- Enclose diagrams, drawings, design plans, construction specifications, and maps that provide all of the following: site specific construction details; dimensions of each structure and/or extent of each activity in the bed, channel, bank or floodplain; overview of the entire project area (i.e., "bird's-eye view") showing the location of each structure and/or activity, significant area features, stockpile areas, areas of temporary disturbance, and where the equipment/machinery will access the project area.
    - A helpful resource to assist in the development of quality PDF maps in Google Earth. See Using Google Earth to Map your Property (PDF).

The proposed Project would entail the issuance of an approximately 0.23-acre ROW grant for the construction, operation, maintenance, and decommissioning and restoration of a multi-carrier communication site and ancillary components, on BLM-administered land. The requested ROW includes the use of approximately 5. 77 miles of primarily existing BLM designated open access routes off Highway 66.

See Attachment A1 for a detailed Project description.

☑ *Continued on additional page(s)*

B. Specify the equipment and machinery that will be used to complete the project.

Bulldozer, grader, crane, and water truck.

See also Attachment A1.

☑ *Continued on additional page(s)*

C. Will water be present during the proposed work period (specified in box 4.D) in the stream, river, or lake (specified in box 8.B).	☐ Yes ☑ No (*Skip to box 11*)
D. Will the project require work in the wetted portion of the channel?	☐ Yes (*Enclose a plan to divert water around work site*) ☑ No

Ash Hill Communication Site Project
InterConnect Towers, LLC

11. PROJECT IMPACTS

A. Describe impacts to the bed, channel, and bank of the river, stream, or lake, and the associated riparian habitat. Specify the dimensions of the modifications in length (linear feet) and area (square feet or acres) and the type and volume of material (cubic yards) that will be moved, displaced, or otherwise disturbed, if applicable.

Impacts to Bristol Mountain Wash are expected to consist of 0.17 acres over 300 linear feet. Impacts to Bristol Mountain Wash will consist of a necessary repairs to an existing road within a section of the unvegetated bottom and bank of the drainage. Impacts to associated riparian vegetation are not expected.

See Attachment A1 for more detailed information.

☑ *Continued on additional page(s)*

B. Will the project affect any vegetation? ☐ Yes (*Complete the tables below*) ☑ No *(Include aerial photo with date supporting this determination)*

Vegetation Type	Temporary Impact	Permanent Impact
n/a	Linear feet: _____ Total area: _____	Linear feet: _____ Total area: _____
n/a	Linear feet: _____ Total area: _____	Linear feet: _____ Total area: _____

Tree Species	Number of Trees to be Removed	Trunk Diameter (range)
n/a	0	0

☐ *Continued on additional page(s)*

C. Are any special status animal or plant species, or habitat that could support such species, known to be present on or near the project site?

☑ Yes *(List each species and/or describe the habitat below)* ☐ No ☐ Unknown

Desert Tortoise; See Attachments A1, C, E2.

☑ *Continued on additional page(s)*

D. Identify the source(s) of information that supports a "yes" or "no" answer above in Box 11.C.

CNDDB; Attachment E1 (EA [2018]) and E2 (Biological Resources Assessment and Tortoise Report [2017])

☑ *Continued on additional page(s)*

E. Has a biological study been completed for the project site?

☑ Yes (*Enclose the biological study*) ☐ No

Note: A biological assessment or study may be required to evaluate potential project impacts on biological resources.

Ash Hill Communication Site Project
InterConnect Towers, LLC

F. Has one or more technical studies (e.g., engineering, hydrologic, geological, or geomorphological) been completed for the project or project site?

☐ Yes *(Enclose the study(ies))* ☑ No

Note: One or more technical studies may be required to evaluate potential project impacts to a lake or streambed.

G. Have fish or wildlife resources or waters of the state been mapped or delineated on the project site?

☑ Yes (*Enclose the mapped results*) ☐ No

Note: Check "yes" if fish and wildlife resources or waters of the state on the project site have been mapped or delineated. "'Wildlife' means and includes all wild animals, birds, plants, fish, amphibians, reptiles and related ecological communities, including the habitat upon which the wildlife depends." (Fish & G. Code, § 89.5.) If "yes" is checked, submit the mapping or delineation. If the mapping or delineation is in digital format (e.g., GIS shape files or KMZ), you must submit the information in this format for CDFW to deem your notification complete. If "no" is checked, or the resolution of the mapping or delineation is insufficient, CDFW may request mapping or delineation (in digital or non-digital format), or higher resolution mapping or delineation for CDFW to deem the notification complete.

12. MEASURES TO PROTECT FISH, WILDIFE, AND PLANT RESOURCES

A. Describe the techniques that will be used to prevent sediment, hazardous, or other deleterious materials from entering watercourses during and after construction.

See Attachments A1, D1.

☑ *Continued on additional page(s)*

B. Describe project avoidance and/or minimization measures to protect fish, wildlife, and plant resources.

See Attachments A1, D1, D2.

☑ *Continued on additional page(s)*

C. Describe any project mitigation and/or compensation measures to protect fish, wildlife, and plant resources.

See Attachments D1, D2.

☑ *Continued on additional page(s)*

Ash Hill Communication Site Project
InterConnect Towers, LLC

13. PERMITS

List any local, State, and federal permits required for the project and check the corresponding box(es). Enclose a copy of each permit that has been issued.

A.	CDFW Section 2081 ITP for Desert Tortoise (Will Apply during May 2019)	☐ Applied	☐ Issued
B.	RWQCB - Region 6 Lahanton Region - General WDR (Will apply after CEQA is initiated)	☐ Applied	☐ Issued
C.	BLM Lease; compliance with regional planning process; Prog. BO (1997)	☐ Applied	☑ Issued

D. Unknown whether ☐ local, ☐ State, or ☐ federal permit is needed for the project. (*Check each box that applies*)

☐ *Continued on additional page(s)*

14. ENVIRONMENTAL REVIEW

A. Has a CEQA lead agency been determined?	☑ Yes (*Complete boxes B, C, D, E, and F*) ☐ No (*Skip to box 14.G*)		
B. CEQA Lead Agency			
C. Contact Person	Ali Aghili	D. Phone Number	(760) 900-4448

E. Has a draft or final document been prepared for the project pursuant to CEQA and/or NEPA?

☐ Yes (*Check the box below for each CEQA or NEPA document that has been prepared and enclose a copy of each.*)

☑ No (*Check the box below for each CEQA or NEPA document listed below that will be or is being prepared.*)

☐ Notice of Exemption	☑ Mitigated Negative Declaration	☐ NEPA document (*type*):
☐ Initial Study	☐ Environmental Impact Report	
☐ Negative Declaration	☐ Notice of Determination *(Enclose)*	
☐ THP/ NTMP	☐ Mitigation, Monitoring, & Reporting Plan	

F. State Clearinghouse Number (*if applicable*)

G. If the project described in this notification is not the "whole project" or action pursuant to CEQA, briefly describe the entire project (Cal. Code Regs., tit. 14 § 15378).

Ash Hill Communications Site is a single and complete project.

☐ *Continued on additional page(s)*

Ash Hill Communication Site Project
InterConnect Towers, LLC

H. Has a CEQA filing fee been paid pursuant to Fish and Game Code section 711.4?

☐ Yes (*Enclose proof of payment*) ☑ No (*Briefly explain below the reason a CEQA filing fee has not been paid)*

Note: The CEQA filing fee is in addition to the notification fee. If a CEQA filing fee is required, the Lake or Streambed Alteration Agreement may not be finalized until paid.

After CDFW initiates the CEQA process, InterConnect Towers, LLC will submit the fee for CEQA process, if applicable. (CEQA MND = $2,354.75)

15. SITE INSPECTION

Check one box only.

☑ In the event CDFW determines that a site inspection is necessary, I hereby authorize a CDFW representative to enter the property where the project described in this notification will take place at any reasonable time, and hereby certify that I am authorized to grant CDFW such entry.

☐ I request CDFW to first contact (*insert name*) _____ at (*insert phone number or email address*) _____ to schedule a date and time to enter the property where the project described in this notification will take place. I understand that this may delay CDFW's determination as to whether a Lake or Streambed Alteration Agreement is required and/or CDFW's issuance of a draft agreement pursuant to this notification.

16. DIGITAL FORMAT

Is any of the information included as part of the notification available in digital format (i.e., CD, DVD, etc.)?

☑ Yes (Please enclose the information via digital media with the completed notification form.)

☐ No

17. SIGNATURE

I hereby certify that to the best of my knowledge the information in this notification is true and correct and that I am authorized to sign this notification as, or on behalf of, the applicant. I understand that if any information in this notification is found to be untrue or incorrect, CDFW may suspend processing this notification or suspend or revoke any draft or final Lake or Streambed Alteration Agreement issued pursuant to this notification. I understand also that if any information in this notification is found to be untrue or incorrect and the project described in this notification has already begun, I and/or the applicant may be subject to civil or criminal prosecution. I understand that this notification applies only to the project(s) described herein and that I and/or the applicant may be subject to civil or criminal prosecution for undertaking any project not described herein unless CDFW has been separately notified of that project in accordance with Fish and Game Code section 1602 or 1611.

Signature of Applicant or Applicant's Authorized Representative

5/4/19
Date

Tom Gammon, CEO
Print Name

CDFW

Streambed Alteration Agreement

Notification Package

Ash Hill Communication Site Project

Attachment A1.

Responses to Boxes 8 – 12 of Form 2023

Supplement Text for Boxes 8 – 12 of Form 2023

Box 8. Project Location

The proposed communication site is in San Bernardino County, California, approximately 7.8 miles east of Ludlow, California, just south of the I-40 ROW. The proposed Project location is in the NW 1/4 of Section 11, Township 7N, Range 9E, San Bernardino Meridian. The proposed Project is also approximately 340 feet within the boundaries of the Mojave Trails National Monument (MTNM) (see Appendix A2 for all figures).

The center of the proposed communication tower is located at 34.716083°N, -116.022958°W at an elevation of approximately 2,070 feet above mean sea level. The proposed site, the access road, and all ancillary components would be entirely on BLM-managed lands. See Figure 1 for a regional location map; Figure 2 for a local vicinity aerial photo of the area; and Figure 3 for a topographic map; and Figure 6A – 6C (vegetation and washes; Attachment 2B). The existing access road begins approximately 8.5 miles to the southeast of Ludlow, California, along U.S. Route 66 at 34.679686°N, -116.025251°W.

APNs (from North to South, West to East):

North APNs:	**055706109; 055706108 (contains tower location); 055706107**
North-Central APN:	**055706118**
South-Central APNs:	**055703104; 055703107; 055703106; 055703108**
Southern APN:	**055703112**

CDFW Contact:

Ali Aghili
Senior Environmental Scientist (Supervisor)
California Department of Fish and Wildlife
Region 6 (Inland Deserts Region)
3602 Inland Empire Blvd.
Ontario, CA 91764

Box 10A. Project Description

Summary

The results include the description of the 11 unnamed jurisdictional features, as mapped within the Study Area. Within the Study Area, the JD resulted in 0.77 acre of waters of the State and 3.845 acres of CDFW streambeds for a total of 3,411 linear feet. The JD also presents an impact analysis for a 25-foot corridor.

Background and Purpose of Project

The Proponent seeks to provide improved cellular communication capability within the I-40 corridor and surrounding lands, specifically east of Ludlow, California, and along a portion of U.S. Route 66 (National Trails Highway). I-40 is a heavily traveled roadway that carries regional traffic between southern California and northern Arizona. This segment of I-40 and adjacent lands has been identified as having inadequate cellular transmission coverage, largely due to a current lack of towers in or adjacent to the highway within

the coverage area. Wireless telecommunication providers (i.e., Verizon, AT&T, etc.) have determined a need for an additional communication site based on any or all of the following criteria:

- Need to provide signal coverage to an area or zone;
- Need to strengthen/densify coverage to an area or zone;
- Customer demand for coverage;
- Emergency Response Agency demand for coverage;
- Law Enforcement Agency demand for coverage; and
- Federal/Homeland Security demand for coverage.

The proposed Project would remedy the existing coverage deficiencies in the area and would meet one or more of the objectives outlined above. The facility would be made available for collocated use by existing wireless telecommunication providers and other telecommunication service providers. See Figure 1 for a regional location map and Figure 2 for a local vicinity aerial map of the area.

General Project Description

The proposed Project would entail the issuance of an approximately 0.23-acre ROW grant for the construction, operation, maintenance, and decommissioning and restoration of a multi-carrier communication site and ancillary components, on BLM-administered land.

The Proponent has filed an application for a 30-year ROW grant from the BLM for the proposed construction of the communication facility. The proposed Project site is not ancillary to an existing ROW. The proposed Project would be a multi-tenant wireless communication facility and would be designed to accommodate up to six tenants including a minimum of four national carriers as well as government agencies (police, fire and resource, and highway patrol).

The proposed Project would consist of the following proposed components:

- 100 by 100-foot lease area that includes a single three-legged, 196-foot freestanding, self-supporting lattice communication tower;
- 20-foot by 40-foot equipment shelter ;
- up to two 100-kW backup generators with up to three 2,000-gallon propane tanks;
- up to three 20-foot by 40-foot solar arrays;
- a chain-link fence, with galvanized hardware mesh with dimensions of 1 inch by 2 inches, would be attached to the lower 18 inches of the chain-link fencing and buried to a depth of 12 inches, in accordance with standard specifications for fencing in desert tortoise habitat; and
- a 12.5-foot-wide entrance gate at the southerly line of the lease site.

Detailed information about each of the proposed Project components is provided below.

Tower

The tower would be a self-supporting, three-legged, lattice-style structure, and would be 196 feet in height. The tower would serve as the structure upon which the communication equipment would be mounted. The tower would be placed upon a concrete slab foundation, and would consist of either cast-in-place caissons or shallow foundations designed to carry axial loads and moments of force applied by wind and other factors on the tower. The tower, foundations, and all other structures on the site would be built to professional standards and applicable building codes. Soil tests and other investigations would be performed within the location of the proposed site to determine the specific foundation requirements.

The structural members and bracing units of the tower would be constructed of industry-standard galvanized steel with a silver-gray color tone in conformance with the Applicant-proposed visual resource measures that require non-reflective metal surfaces and tones to reduce glare. A grounding system would also be installed. The types of communication equipment installed on the tower would be similar for the carriers housed at the site and would vary only with the equipment requirements for their specific systems. All systems will generally include a rectangular antenna array, omni antennas, and microwave dishes.

Equipment Shelter and Supporting Components

The site would include an equipment shelter adjacent to the tower to house interior communication equipment. The shelter would likely be a 20-foot by 40-foot slab block building that would be constructed onsite. Alternately, the shelter could be an assemblage of smaller industry standard prefabricated units or equipment cabinets brought by truck and installed onsite. Regardless of construction method, the structure(s) would be mounted on a concrete foundation sized according to structure dimensions and other design requirements. The shelter would be divided into two or more interior compartments or rooms depending upon carrier requirements. The shelter would include an environmental control system for heating, ventilation, and air conditioning (HVAC) to keep the interior of the shelter within the temperature range required for the operation of the electronic communication equipment inside. Alternately, a three or four-sided open air shelter would be constructed.

Electrical power to the proposed Project site would be provided by up to three 15-foot by 40-foot photovoltaic solar arrays. The panels would be approximately 8 feet in height on the south side angling to 15 feet high along the north edge of the solar panels. Electronic equipment would be installed within a series of weatherproof cabinets located beneath the solar panels. The compound would also include up to two 100-kW standby generators located outside of the equipment shelter and mounted on a concrete pad. The generators would provide electric power in the event of failure of grid power or during periods of high electric power consumption. The generators would be powered by propane fed by up to three 2,000-gallon steel tanks located adjacent to the shelter. The generators would include mufflers on the power units to minimize noise.

The communication site facility would be enclosed within a Motorola R56 Design Standard chain-link fence or equivalent measuring 8 to10 feet in height, with three strands of barbed wire on the top, bringing the total height of the fencing to 9 to 11 feet. Galvanized hardware mesh of 1-inch by 2-inch dimensions would be attached to the lower 18 inches of the chain-link fencing and buried to a 12-inch depth or bent outward and secured to the ground. A 12.5-foot-wide entrance gate would provide access into the compound for persons and vehicles. A downward-shielded security light would be mounted within the compound and would be activated by a motion sensor.

Access Road

The access route would primarily utilize a series of existing BLM-designated open access routes off of U.S. Route 66 The access route would utilize U.S. Route 66 to route NS00I 7 to route NS0003 to the proposed Project site for a total of approximately 5.77 miles. The section of access route off of NS0003 leading to the communication facility utilizes previously disturbed land but is considered unauthorized disturbance by the BLM because that section of the route has not been previously authorized with a ROW or designated as an open route. Figure 2 shows the location of the proposed access route.

The access route is currently of adequate width for the site access road and would not require significant improvement (i.e., no widening) to construct the communication site. Any minor grading proposed would be performed to smooth out the existing dirt road similar to road maintenance following heavy rains. No

new disturbances would occur aside from that created by continued vehicular access and hauling construction equipment to the proposed communication tower site, as well as limited, necessary road repairs of a 300-foot stretch of route NS0017 located 100 feet northeast of the Atchison, Topeka & Santa Fe railroad alignment and within Wash 3 South and potentially placing material such as gravel over the existing road bed, if road maintenance is required there. Also, light smoothing of the access route may be necessary following heavy rains. Desert tortoise exclusionary fencing would not be installed along access road segments.

CONSTRUCTION

Construction of the Project would occur within 90 to 120 days of right-of-way (ROW) issuance, preferably within the fall and winter seasons. It is expected that the site would take up to 45 days to construct. This time period could vary depending on the difficulty of construction, availability of work crews, and other factors. The number of workers (excluding biological monitors) at the site on any given day during construction would typically vary from four to six. Following completion of the construction process, all debris and waste materials would be removed from the site and disposed of at an approved facility in accordance with applicable regulations.

Access Road

The 375 feet of existing dirt roadway that would be utilized to approach the site is of sufficient width and condition that it would not require improvement to construct the site. The new segment, however, would be an all-new roadway and would be graded to a width of 14 feet. This would be accomplished with a bulldozer or grader, with associated spoils pushed to the sides of the roadway. Any earthen berms thus created would be rounded off to not inhibit travel by desert tortoise. A number of switchbacks would be installed along the last half-mile of the roadway near the top of the ridge to maintain a suitable grade up the slope. Up to 50 feet of upslope and downslope fall-off disturbance could occur on either side of the roadway along the steeper stretches, particularly at switchback locations. No paving or similar hardening of the road surface is anticipated. Construction of the new access road would occur in a biologically inactive season (e.g., winter or summer) and take up to 30 days.

Communication Site

Prior to construction of the communication site, the soils and substrate at the site would be sampled and tested to assist in tower foundation design. Typically, a mobile boring machine would be utilized to bore a single 6- to 8-inch-diameter hole using a hollow boring auger. These tests would only be conducted within the area of the proposed tower footprint. Soils density tests would be performed at specified levels, and samples would be collected for laboratory analysis. This information would be used to determine the tower foundation designs and methods of construction. In accordance with occupational safety and desert tortoise habitat regulations, the holes would be backfilled immediately following the drilling and analysis processes.

Construction at the communication site would proceed with site preparation and grading occurring first, followed by excavation for tower footings and shelter slabs. The site is generally level, but some grading would need to occur to adequately prepare the site. The tower site would be leveled using earthmoving equipment such as a bulldozer and then the excavation for the tower foundation would proceed. Small foundations for the shelter/building/solar pad would be excavated. Rebar for the foundation footings would be installed and the anchor bolts for the tower/building/solar mounts would be placed. The concrete

foundation would be poured in a single day for both the tower and building/solar pad. It is anticipated that the site would be practically accessible by concrete trucks so that premixed concrete could be delivered directly to the site. Should this prove infeasible, a batch concrete mixing station would be located on-site with water provided by a water truck.

Construction equipment to be used on-site would vary based upon the type of work currently underway.

Construction equipment to be used onsite would vary based upon the type of work currently underway, but equipment would likely be confined to that listed below in Table 2-2 below (from EA). All of the equipment listed in the table might not be necessary, nor would it all be operating at the same time.

Table 2-2 from EA. Construction Equipment

Equipment Type	Quantity
Excavator	1
Mini Excavator	1
Tractors/Loaders/Backhoes	1
Bulldozer	1
Grader	1
Water Truck	1
Cement/Mortar Mixers	2
Crane	1
Forklift	1
Portable Generator	1
Pickups and other light/medium duty road vehicles	4

Vehicle speeds would be limited to 15 miles per hour on the access road to reduce fugitive dust generation, but the road would not be wetted during construction.

Following placement of necessary foundations, the tower would be erected. The use of helicopters would not be required, and no additional temporary access would be required. The tower would be constructed in the site compound in 20' sections. All assembly would consist of sections brought to the tower site and stacked in a single day. Upon completion of the shelter, internal and external equipment would be installed. Propane tanks and generators would be mounted on concrete-bermed foundations to contain spills or leaks that could occur during operation, fuel replenishment, and maintenance.

The surrounding chain-link fence and gate would also be installed. Galvanized hardware mesh of 1-inch by 2-inch dimensions would be attached to the lower 18 inches of the chain-link fencing and buried to a 12-inch depth, in accordance with standard specifications for desert tortoise exclusion fencing (see USFWS 2009). A gate would provide access into the compound for persons and vehicles. A downward-shielded security light would be mounted within the compound and would be activated by a motion sensor.

OPERATIONS AND MAINTENANCE

Following construction, the facility would operate 24 hours a day, 7 days a week for the duration of the lease period. The lease period would be 30 years with a renewal option up to 50 years. The electronic equipment housed in the shelter(s) and/or equipment cabinets would be temperature controlled by wall-mounted HVAC units. During warmer periods of the year, the cooling units could periodically be in operation 24 hours a day. Security lighting would be installed within the chain-link enclosure and would be controlled by means of a motion sensor.

Maintenance activities at the site would consist of monthly visits by technicians associated with each of the carriers with equipment at the site. While the number of site visits would vary depending upon specific maintenance requirements and other activities, the number of separate visits would likely be six to 10 visits per month, though this number could be greater and more frequent during the initial installation of carrier equipment. Workers would typically arrive in crews of one to three persons in standard service trucks. A typical monthly visit could be concluded in as little as an hour, but could extend to a full day or multiple days depending upon the task undertaken.

The on-site generators would typically switch on automatically once per week, and run for a period of approximately 30 minutes to ensure the maintenance of adequate lubrication within the units and to test them for proper operation. The units would be equipped with sensors to report their operational status, and in the event of a fault, a technician would be dispatched to conduct repairs.

Refills of the propane fuel for the generators would require periodic visits by a fuel delivery truck. Fuel levels would be monitored by a remote system and refills would occur as needed, probably once quarterly, depending on supplemental electric power demand. In the event of a prolonged power outage, more frequent visits would be necessary.

The solar panels would require occasional washing with water to maintain their efficiency. The frequency of washing would unlikely exceed more than twice per year. Water would be brought to the site by truck for this purpose.

The access road could require occasional maintenance following heavy rainfall events. Should maintenance be required, BLM would be contacted for approval prior to initiating work. Maintenance activities would likely be limited to minor smoothing using a front-end loader or grader during dry conditions. No road widening would be required during facility operations.

DECOMMISSIONING AND RESTORATION

Upon termination of the ROW grant, the Applicant would restore, under the direction of BLM, the premises and access road as close to original condition as possible. This would entail the following procedure:

- All structures, tower, fencing and buildings would be deconstructed and removed from the Project site;
- The cement foundations would be covered over with local dirt from within the compound;
- The access gates for the Project site would be removed; and
- Revegetation would be allowed to occur naturally to blend with the surrounding area.

Box 11A. Project Impacts – Baseline Conditions

Biological Resources

The previous 2011 Ash Hill Communication Site EA (DOI-BLM-CA-2011-0015-EA) concluded that little vegetation occurs where the proposed communication site construction activity would occur, impacts to this resource resulting from surface grading, vehicle staging and temporary material storage would be negligible. The revised project proposes a 0.23-acre lease area compare to 0.207- acres. The .023 acres required is currently disturbed and lacking vegetation. The new 196-foot tower would be constructed within the lease area. No cacti, succulent plants, yucca species or any State of California regulated/protected plant species are known to occur in the area proposed for surface disturbance associated with the communication site. No perennial plant species are expected to be impacted by the Proposed Action in this locale.

An updated Biological Resource Assessment and Desert Tortoise Focused Survey Report was prepared in December 2017 to address the new access route for the communication site (Amec Foster Wheeler 2017). Extensive previous surface disturbance has removed most vegetation from the proposed access route. The less utilized portions of the access route, south of the gas pipeline road/NS0003, contain some vegetation. However, no yuccas, trees, cacti, special status, or succulent plants are expected to be impacted as the project activities will be confined to the existing access roads and the disturbed project site (Amec Foster Wheeler 2017). Therefore, no impact will occur, and no habitat mitigation is required.

Although the proposed access route offers little in the way of wildlife habitat, the routes are surrounded by a largely undisturbed native plant community which provides habitat for a variety of terrestrial and avian species. Little to no wildlife impacts are expected relative to surface disturbance and construction activities proposed for the project as very little vegetative cover and available habitat would be affected in the proposed construction zone. Small mammals and reptiles are unlikely to be significantly affected by the proposed action; as little if any vegetation, burrows or habitat components which this fauna may be dependent on would be removed or disturbed. Larger mammals are also not expected to be affected by the proposed action; as little or no habitat components would be lost. Therefore, no significant reduction of any territory or wildlife corridor would occur.

The previous EA identified that the affected area is located outside of habitat designated as critical for this listed population, in an area not previously characterized as tortoise habitat (BLM 1989). However, a small area of previously characterized BLM-Category III tortoise habitat occurs several miles southeast of the affected area (BLM 2002b). The general affected area has also been modeled by the U.S. Geological Survey as likely suitable tortoise habitat (USFWS 2008). No tortoise sign was noted during the 2010 tortoise survey effort. The previous EA concluded that no habitat considered suitable for the state and federally listed threatened tortoise would be lost as a result of the Proposed Action.

Surveys conducted in 2017 observed very recent signs of the desert tortoise such as the detection of fresh tracks as well as carcasses, burrows, and scat showing that the area is still occupied by the species along the proposed access route (Amec Foster Wheeler 2017). Although impediments to tortoise movement exist in the area, they do not prevent the potential for tortoise travel onto the proposed access road and communication site. Should tortoises occur on the access road or communication site during construction, equipment delivery, or road maintenance activities, potential exists for them to be adversely affected. Applicant Proposed Measures/Design Features are incorporated into the proposed project to reduce potential impacts to desert tortoises.

The proposed project will not result in new impacts to Biological Resources that were not previously analyzed in the 2011 EA. Therefore, no additional analysis is required.

Existing Setting and Vegetation Communities

- See also Attachment B. Jurisdictional Delineation Report (AECOM 2019)

Pre-existing site disturbance conditions were observed along the entire Study Area and consisted of an unpaved dirt access road and railroad bridge. The tower site is located at the terminus of the access road and consists of a largely unvegetated and disturbed area with rubble from a previous disturbance. The access road crosses several ephemeral desert washes along its length. The larger washes have windrowed material along the sections of the road within the Study Area, which have had minor effects on the hydrology within the immediate vicinity. All remaining areas within the Study Area consist of sparsely vegetated Creosote Bush Scrub in the uplands along with unvegetated desert pavement.

Observed vegetation communities were mapped within the Study Area and are described below.[1] The field mapping effort complemented the natural communities' literature review. No sensitive vegetation communities with a state rarity rank of S1-3[2] that were identified during the literature review were confirmed present within the Study Area during the reconnaissance survey. Table 6-1 identifies the field-observed vegetation communities and associated acreages within the Study Area, and these communities are illustrated in Figures 6A, 6B, and 6C.

Table 6-1. Vegetation Communities within Study Area

Vegetation Community[1]	Area (acres)
Creosote Bush Scrub	18.69
Cheesebush – Sweetbush Scrub	2.28
Native Vegetation Subtotal	20.97
Disturbed/developed (access roads)	13.99
Total	**34.96**

[1] Communities were described using *A Manual of California Vegetation Online* (http://vegetation.cnps.org/).
[2] California Native Plant Society (CNPS) utilizes a ranking system to assign an imperilment status for plant communities within California. They are as follow: S1 = Critically Imperiled – Critically imperiled in the state because of extreme rarity, 5 or fewer occurrences. S2 = Imperiled – Imperiled in the state because of rarity due to very restricted range, 20 or fewer occurrences. S3 = Vulnerable – Vulnerable in the state due to a restricted range, 80 or fewer occurrences. S4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors. S5 = Secure – Common, widespread, and abundant in the state.

Upland Vegetation Communities (Adjacent to Episodic Drainages)

Creosote bush (*Larrea tridentata* –Shrubland Alliance). This community is composed of creosote bush as a dominant or co-dominant in the shrub canopy with goldenhead, burro weed, burrobush, spiny saltbush, desert holly, cattle spinach, wooly brickellia, brittle bush, Nevada ephedra, and Anderson thornbush. Emergent trees may be present at low cover, including honey mesquite and Joshua tree. This community occurs within alluvial fans, bajadas, upland slopes, and minor intermittent washes. Soils are well drained, sometimes with desert pavement. The majority of the Study Area is located within this vegetation community, with the exception of those areas that occur directly within the desert washes. Observed pre-existing disturbances were the access road and location of the proposed tower site. The state rarity ranking for this community is S5.

Arid Wash Vegetation Communities

Cheesebush – Sweetbush Scrub (*Ambrosia salsola – Bebbia juncea* Shrubland Alliance). This community is composed of cheesebush (*Ambrosia salsola*) and sweetbush (*Bebbia juncea*) as the dominant shrubs. This community occurs along intermittently flooded channels, arroyos and washes; valleys, flats, and rarely flooded low-gradient deposits. Soils are alluvial, sandy and gravelly, and disturbed desert pavement. Most portions of the Study Area that exist within the desert washes occur within this community. The state rarity ranking for this community is S4.

Ephemeral Drainage Features within the Study Area

- See also Attachment B. Jurisdictional Delineation Report (AECOM 2019)

Eleven ephemeral drainages, all unnamed, and several small, unnamed non-jurisdictional features south of I-40 were observed within the Study Area. The proposed Project is expected to impact one of the unnamed ephemeral drainages within the Study Area (Figure 6C). Table 6-2 provides a summary of jurisdictional features within the Study Area. The potentially jurisdictional feature where impacts are expected was classified according to arid stream type and vegetation community in Table 6-3.

Table 6-2. Ephemeral Drainage Features within Study Area

Feature	Waters of the State		Streambeds	Linear Feet
	Approx. Width (feet)	OHWM (acres)	TOB (acres)	
Wash 1	10	0.015	0.078	65
Wash 2	12	0.018	0.020	24
Wash 3 – North	760	0.244	0.978	817
Wash 3 – South	75–480	0.302	1.832	1,693
Wash 4	3	0.004	0.018	15
Wash 5	5	0.007	0.012	11
Wash 6	12	0.017	0.022	20
Wash 7	7	0.010	0.023	19
Wash 8 – West	425	0.137	0.510	440
Wash 8 – East	140	0.045	0.266	232

Wash 9	3	0.004	0.019	16
Wash 10	2	0.003	0.010	6
Wash 11	65	0.094	0.057	53
Total	**NA**	**0.77**	**3.845**	**3,411**

OHWM = ordinary high water mark; TOB = Top of Bank

Table 6-3. Classification of Waters of the State and Streambeds Expected to Be Impacted

Feature	Approximate Width (feet)	Classification (Cowardin)	Vegetation Community or Other Land Cover Type	Jurisdictional Unit
Waters of the State and Streambeds				
Wash 3 North	760	R6 - Riverine, Ephemeral; HGM - Riverine	Non-vegetated, Low Flow Channel / Vegetated Watercourse	RWQCB – OHWM; CDFW – TOB
Wash 3 South	75 / 480	R6 - Riverine, Ephemeral; HGM - Riverine	Non-vegetated, Low Flow Channel / Vegetated Watercourse	RWQCB – OHWM; CDFW – TOB
Riparian Habitat				
Wash 3 North	760	Riverine	Cheesebush – Sweetbush Scrub (*Ambrosia salsola – Bebbia juncea*) Shrubland Alliance.	CDFW – Watercourse
Wash 3 South	75 / 480	Riverine	Cheesebush – Sweetbush Scrub (*Ambrosia salsola – Bebbia juncea*) Shrubland Alliance.	CDFW – Watercourse

Definitions: USACE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife; TOB = Top of Bank; HGM = Hydrogeomorphic.

A. Wash 1 – A wash that flows through the northwestern portion of the Study Area, flowing generally from north to south. It is mainly a single, trapezoidal-shaped channel, with an approximately 10-foot-wide gravelly and sparsely vegetated bottom, emptying into Wash 3 about 0.45 mile downstream of the intersection with the Study Area. A smaller wash, Wash 2, flows into this channel downstream of the intersection with the Study Area (Figure 6A).

B. Wash 2 – A wash that flows through the northwestern portion of the Study Area, flowing generally from northeast to southwest. It is mainly a single, trapezoidal-shaped channel, with an approximately 12-foot-wide predominantly gravel and sparsely vegetated bottom, draining into Wash 1 to the south of the Study Area (Figure 6A).

C. Wash 3 (North and South) – The largest wash within the Study Area, it intersects the Study Area in the north and again, 2.25 miles to the south, and flows from north to south. For ease of discussion, Wash 3 is broken up into North and South components (Figures 6A and 6C).

North: Approximately 760-feet wide at the northern intersection of the Study Area, Wash 3 North is a low-gradient floodplain that consists of multiple small braided channels, with no clearly defined OHWM, and is bounded to the east and west by natural landforms. The bottom consists of coarse, large-grained sand and gravel, and is sparsely vegetated with Creosote – Cheesebush Scrub (Figure 6A).

South: Ranging from approximately 75 feet to 480 feet wide at the southern intersection of the Study Area, Wash 3 South is a broad, low-gradient sandy bottomed channel that consists of a main low-flow channel and several braided channels. The previous construction of the railroad and

associated bridge has constrained the channel to a smaller area, leaving a large portion of the original channel abandoned. The bottom consists of coarse, large-grained sand and gravel, and is sparsely vegetated with Cheesebush-Sweetbush Scrub. The existing access road runs along the bottom of the channel for approximately 1,300 feet at this location (Figure 6C).

D. Wash 4 – A wash that flows through the northern portion of the Study Area, flowing generally from northwest to southeast. It is a shallow, low-gradient channel, with an approximately 3-foot-wide gravel and unvegetated bottom, flowing into Wash 3 approximately 1.3 miles south of the Study Area (Figure 6A).

E. Wash 5 – A wash that flows through the northern portion of the Study Area, flowing generally from north to south. It is a single, trapezoidal-shaped channel, with an approximately 5-foot-wide sandy unvegetated bottom, flowing into Wash 6 approximately 0.1 mile south of the Study Area (Figure 6A).

F. Wash 6 – A wash that flows through the northern portion of the Study Area, flowing generally from north to south. It is a single, trapezoidal-shaped channel, with an approximately 12-foot-wide sandy and gravelly, sparsely vegetated bottom, flowing into Wash 8 approximately 0.13 mile south of the Study Area (Figure 6A).

G. Wash 7 – A wash that flows through the northern portion of the Study Area, flowing generally from northeast to the southwest. It is a single, trapezoidal-shaped channel, with an approximately 7-foot-wide gravelly unvegetated bottom, flowing into Wash 6 approximately 0.1 mile south of the Study Area (Figure 6B).

H. Wash 8 (East and West) – The second largest wash within the Study Area, it intersects the Study Area in the northeast and flows generally from north to south. The wash splits just north of the Study Area and converges approximately 0.4 mile to the south, forming an island. For ease of discussion, Wash 8 is broken up into East and West components (Figure 6B).

West: Approximately 425 feet wide at the western intersection of the Study Area, Wash 8 West is a low-gradient floodplain that consists of multiple small braided channels and is bounded to the east and west by natural landforms. The bottom consists of coarse, large-grained sand, gravel, and cobble sparsely vegetated with Creosote – Cheesebush Scrub (Figure 6B).

East: Approximately 140 feet wide at the eastern intersection of the Study Area, Wash 8 East is a low-gradient floodplain that consists of multiple small braided channels and is bounded to the east and west by natural landforms. The bottom consists of coarse, large-grained sand, gravel, and cobble sparsely vegetated with Creosote – Cheesebush Scrub. Functionally, the channel is approximately 60 feet wide and is constrained to the western portion of the original channel by existing berms that appear to have been made during construction or maintenance of the road. The vegetation within the eastern portion of the channel is less dense in comparison to the western portion (Figure 6B).

I. Wash 9 – A wash that flows through the central portion of the Study Area, flowing generally from north to south. It is a single, low-gradient, approximately 3-foot-wide sparsely vegetated channel, flowing into an unidentified wash south of the Study Area (Figure 6C).

J. Wash 10 – A wash that flows through the central portion of the Study Area, flowing generally from north to south. It is a single, low-gradient, approximately 2-foot-wide sparsely vegetated channel, flowing into Wash 3 south of the Study Area (Figure 6C).

K. Wash 11 – A wash that flows through the southern portion of the Study Area, flowing generally from northwest to southeast. It is a single, shallow channel, with an approximately 65-foot-wide sandy and

unvegetated bottom, flowing into Wash 3 approximately 650 feet to the southeast of the Study Area (Figure 6C).

Box 11A. Project Impacts – Impacts to Vegetation and Washes

- See also Attachment B. Jurisdictional Delineation Report (AECOM 2019)

Vegetation Communities and Ephemeral Drainage Features

Impact Corridors

The impact area for the proposed Project is a 25-foot-wide area that will follow an existing dirt access road. Use of the existing access roads will reduce potential impacts. Expected impacts were calculated by assuming that the road repair within Wash 3 – South would be approximately 25 feet in width and 300 feet in length.[3] Table 7-1 shows the acreage of waters of the State and streambeds associated with the impact corridor.

Table 7-1. Overview of Anticipated Impacts within Study Area

	Waters of the State – Ordinary High Water Mark (acres)	Streambeds - TOB (acres)	Linear Feet
Feature			
A. Wash 3 – South	0.172	0.172	300
Total	**0.17**	**0.17**	**300**

*Represents total potential impacts to all jurisdictional features.

Box 11C. Special Status Animal or Plant Species

[3] Impacts have been calculated based on the worst-case-scenario. It is likely that actual impacts will be less.

See Attachments C and E for additional information:

- C. Ash HIll Sensitive Species Tables (from Attachment E2, below).
- E1. NEPA Environmental Assessment (2018)
- E2. Biological Resources Assessment and Desert Tortoise Report (2017)
  - The applicant is coordinating with BLM per Section 7 of the Endangered Species Act
  - The project activities are covered within a 1997 Programmatic Biological Opinion

Note: the applicant will soon be submitting (to CDFW) an application for California Endangered Species Act (CESA) Section 2081(b) Incidental Take Permit.

Desert Tortoise

Note: References included in the text below are from the 2081 Application (forthcoming), and are not provided in this attachment.

Coverage is requested for the incidental take of the State threatened desert tortoise (*Gopherus agassizii*) within the Mojave population.

STATUS

The desert tortoise was listed as threatened under the California Endangered Species Act (CESA) on June 22, 1989 (CFGC 1989). Desert tortoise is also federally listed as threatened under the federal Endangered Species Act, with Critical Habitat designated by the U.S. Fish and Wildlife Service (USFWS 1994a). The listing was initially made on August 4, 1989, by emergency rule (USFWS 1989) and by final rule on April 2, 1990 (USFWS 1990). This listing status applies to the entire population of desert tortoise, except in Arizona south and east of the Colorado River, and in Mexico. An approved recovery plan was published by USFWS (1994b) and revised in 2011 (USFWS 2011).

The Mojave Desert population of desert tortoise has fluctuated range-wide, with population levels varying within regions. The population densities within each of the recovery units are highly variable, but, overall, the desert tortoise population has steadily decreased since monitoring efforts began.

The Project is not located within federally designated critical habitat. The nearest critical habitat (Ivanpah Unit of desert tortoise critical habitat) is designated approximately 20 miles east-northeast of the Project's access road; the communication site lease area is approximately 21 miles from the designated critical habitat. No impacts to designated desert tortoise critical habitat are anticipated; therefore, desert tortoise critical habitat is not discussed further.

CURRENT HABITAT CONDITIONS

As detailed previously under Section 4.1, Vegetation Communities and Land Cover Types, current habitat conditions and desert tortoise surveys indicate the habitat is primarily Mojave creosote bush scrub that is occupied by desert tortoise. At the time of the most recent desert tortoise surveys in spring 2017 (detailed below), there were signs of existing disturbance along the proposed access road, consistent with past road

or pipeline work, soil excavations, and routine travel. The communication site and the habitat appeared relatively undisturbed.

POTENTIAL FOR OCCURRENCE

Desert tortoise pre-Project surveys were performed in accordance with USFWS (2010) survey protocol in October 2017 (Amec Foster Wheeler 2017). In accordance with the USFWS survey protocol, 100% coverage presence-or-absence surveys were conducted along the proposed access road using transects spaced approximately 30 feet apart. In addition, surveys were conducted along three belt transects around the proposed access road at approximately 5 meters (16.4 feet), 15 meters (49.2 feet), and 25 meters (82.0 feet) from the edge of either side of the authorized BLM route. Desert tortoise sign (burrows/pallets, carcasses, scat, and tracks) were mapped and classified according to USFWS methods (USFWS 1992) (Figure 4).

During 2017 desert tortoise pre-project surveys, the following desert tortoise sign were documented:

- Burrows/Pallets: three Class 1 burrows (currently active), two Class 2 burrows (good condition, definitely tortoise, no recent use), two Class 4 burrows (deteriorated condition, possibly desert tortoise), and one Class 5 pallet (good condition; possibly desert tortoise);
- Tracks: three locations associated near desert tortoise burrows;
- Carcasses: eight Class 5 carcasses (disarticulated); and
- Scat: 16 pieces of Class 2 scat (dried with glaze, some odor, dark brown); two pieces of Class 3 scat (dried, no glaze or odor, signs of bleaching, tightly packed material), one piece of Class 4 scat (bleached, or consisting only of plant fiber).

No individual desert tortoise was observed in 2017. None of these observations of desert tortoise sign were observed within the lease area that would support the communication tower; desert tortoise sign was associated with the buffer surrounding the access route.

IMPACTS OF PROPOSED TAKE

14 CCR § 783.2(a)(6): An analysis of the impacts of the proposed taking on the species.

The Project would not result in any impacts to desert tortoise critical habitat through the direct removal of approximately 0.41 acres of occupied habitat. However, there is the potential for take of individuals during construction of the small portion of new access road connecting the existing BLM authorized route and the communication tower pad, O&M, and decommissioning due to vehicle strikes, or inadvertent killing or trapping from use of equipment. Temporary impact areas to suitable or potential desert tortoise habitat could occur at the proposed staging area adjacent to the communication site identified in the 2011 EA (AMEC Earth & Environmental 2011). Potential adverse impacts could also result from construction-related impacts associated with transient increases in noise, fugitive dust, or the attraction of predators; however, measures described in Section 9 would minimize the potential for take.

During desert tortoise surveys conducted in spring 2015, no live desert tortoise were found within or adjacent to the proposed communication site or access road route (Amec Foster Wheeler 2017).

However, numerous locations of sign of desert tortoise occupation were documented along the access route and on buffer transects along the access route (Figure 6, and Section 5.1.3).

Any desert tortoise found on the site during Project construction would remain in the population by being moved a short distance (within their home range) out of harm's way by an authorized biologist. During O&M, any desert tortoise observed on the access road by maintenance personnel would be permitted to move out of harm's way on their own accord or moved out of harm's way by an authorized biologist if they do not move on their own. Implementation of measures described in Section 9 would avoid and minimize potential for direct take of desert tortoise during implementation of the Project (including potential for vehicle strikes). Thus, the potential level of take is anticipated to be small. Although the Project will impact desert tortoise habitat, the potential level of direct take resulting from this impact is anticipated to be small and unlikely to have an overall, long-term adverse impact on desert tortoise within the Project vicinity or on the species as a whole.

12. Measures to Protect Fish, Wildlife, and Plant Resources

12A. Techniques to prevent sediment, hazardous, or other deleterious materials from entering watercourses during and after construction.

Avoidance, Minimization, and Mitigation Measures

Mitigation measures are recommended as precautionary measures relevant to the protection of biological resources, and are required to offset potentially significant adverse proposed Project impacts. A reporting mechanism will be associated with the measures, in order to document mitigation completion and performance. Potential impacts to ephemeral drainages will be avoided, minimized, and/or mitigated by incorporation of Project-specific mitigation measures.

1. *Limits of Disturbance*. All equipment and workers will remain within approved work limits. Work limits will be designated with lathe staking or a similar method. Impacts to vegetation outside of the access road are not anticipated.

2. *Water Quality*. Equipment and materials will be staged within the alignment and away from water drainages. Parked equipment will have secondary containment to prevent any fluid leaks coming into contact with the ground surface. Any hazardous waste spills will be immediately cleaned up and reported to the qualified biologist.

3. *Use of Disturbed Areas*. Wherever possible, construction personnel shall utilize existing access roads or previously disturbed areas to reach the Project or stage their vehicles and equipment.

4. *Regulatory Permits*. Prior to approval of the Project plans and specifications, the Proponent shall confirm that the plans and specifications stipulate that, prior to commencement of construction activities, the Proponent shall coordinate with the RWCQB to obtain a WDR pursuant to the California Water Code. Additionally, the Proponent shall obtain a Streambed Alteration Agreement from the CDFW pursuant to Section 1602 of the CFGC. The RWQCB will likely require a letter from the USACE regarding the applicability of Section 404 permits, and to verify that the watershed is indeed an "isolated watershed" where the USACE does not require a Section 404 permit.

The Project as proposed would potentially affect waters of the State / streambeds subject to RWQCB and CDFW jurisdiction.[4] A WDR should be prepared and submitted to the Colorado River RWQCB[5] for review and a permit must be issued before Project construction could begin.

Due to the isolated nature of the Bristol Mountains Wash watershed, the USACE is not expected to regulate Project activities under Section 404 of the CWA; therefore, no application (or associated OHWM Data forms, Preliminary Jurisdictional Determination form) for a USACE CWA Section 404 dredge/fill permit will be required. It is recommended to obtain a letter from the USACE confirming this conclusion.

In some cases where a CWA section 404 permit will not be issued by the USACE for the Project, coverage under General WDRs (GWDRs) may be appropriate. This application can be used to apply for coverage under the following GWDRs:

> **WQO-2004-0004-DWQ**
> **General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction**
> http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf
> Regulates minor discharges of dredged or fill material to waters of the State waters not subject to Clean Water Act Section 404. Waters of the state means any surface water or groundwater, including saline waters, within the boundary of the state, including wetlands and riparian areas. Usage for land development, disposal of dredged material, bed and bank modifications, and other similar projects is restricted to size limits in the order (must be less than 0.2 acre).

Application to the Colorado River Region utilizes the same application as for the 401 Certification:

> Colorado River for CWA 401 and WDR for Dredge and Fill Projects. https://www.waterboards.ca.gov/coloradoriver/water_issues/programs/401_certification/docs/401_apform_r7.docx;
> https://www.waterboards.ca.gov/coloradoriver/water_issues/programs/401_certification/instructions_401.shtml

A Notification of Lake or Streambed Alteration should be prepared and submitted to CDFW Inland Deserts Region No. 6 [6] for review and an agreement must be issued before Project construction could begin.

> **Lake or Streambed Alteration Notification Form (PDF Form).**
> https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=3754;
> https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=3773&inline

12B. Avoidance and/or Minimization Measures

See 12A above, as well as Attachments D1 for Applicant-Proposed Measures..

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[4] Streambeds or watercourses jurisdictional per California Fish and Game Code 1600 *et seq*.
[5] Colorado River Regional Water Quality Control Board, 73-720 Fred Waring Drive, Suite 100, Palm Desert, CA 92260; http://www.waterboards.ca.gov/coloradoriver/.
[6] CDFW Inland Deserts Region (Region 6); 3602 Inland Empire Blvd, Suite C-220, Ontario, CA 91764; (909) 484-0167; AskRegion6@wildlife.ca.gov.

12C. Project Mitigation and/or Compensation Measures

See Attachments D2 for Restoration Techniques..

HABITAT PRESERVATION AND MANAGEMENT

- Attachment E. Other Documents
  - E1. NEPA Environmental Assessment (2018)
  - E2. Biological Assessment and Desert Tortoise Survey Report (2017)

The Project is within the boundary of the Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment (LUPA) to the California Desert Conservation Act (CDCA) of 1980, as amended. Within the DRECP, the Project site is located within the California Desert National Conservation Lands (NCL) and the Bristol Mountains Area of Critical Environmental Concern (ACEC). The Project site is also within the CDCA-designated Utility Corridor "G". The disturbance caps within the NCL and ACEC are 1.0% and 0.5%, respectively. At this time, BLM has determined the baseline ground disturbance for the NCL and ACEC is 1.4% each, and exceeds the ground disturbance cap for both areas. The standard mitigation ratio within the ACEC is 3:1. Therefore, to mitigate for impacts to the ground disturbance cap by the development of the communication lease area and access road, ground disturbance will be mitigated at a ratio of 3:1, for a total of approximately 1.23 acres (i.e., impacts in undisturbed areas [0.41 acre] multiplied by 3) through habitat enhancement and restoration.

The Applicant has identified potential mitigation areas based on data provided by BLM (Figure 5). BLM identified areas of unauthorized disturbance within the ACEC when quantifying baseline ground disturbance for the DRECP. Unauthorized disturbance in the form of undesignated off-highway vehicle (OHV) routes occurs in the vicinity of the Project and these routes will be targeted as potential mitigation areas by the Applicant. The Applicant proposes to mitigate through passive restoration of these undesignated OHV routes (i.e., unauthorized disturbance areas). Restoration would be conducted through vertical mulching, soil decompaction, mechanical ripping, soil/vertical pitting, soil imprinting, raking, rocks, planting vegetation, seeding, or removing manufactured materials and structures. A detailed discussion of each of these techniques along with potential impacts associated with restoration is provided in the Project EA (AECOM 2018) and included in Appendix B.

Additionally, the Applicant proposes to mitigate for the 0.41 acre of new ground disturbance by purchasing 0.41 acre of compensation lands suitable for the desert tortoise (i.e., a 1:1 ratio). It is anticipated that the 0.41 acres of compensation lands would be in the form of a purchase of habitat credits from a mitigation bank approved by CDFW. The acquisition of the compensation acreage, along with implementation of the general and desert tortoise-specific impact avoidance and minimization measures, outlined herein, would fully mitigate for any Project impacts to the species.

The following best management practices and mitigation measures taken from the “Biological Opinion for Small Projects in Desert Tortoise Habitat” (USFWS 1997) have been included below as recommended mitigation to avoid incidental take of desert tortoises (USFWS 1997). These measures will also serve to protect other wildlife, including special status species.

DT-1. A qualified biologist1 (i.e., an individual with appropriate education, training and experience to conduct desert tortoise surveys, monitor project activities in tortoise habitat, and provide worker education programs) is recommended to:

a. Provide an environmental awareness and tortoise education training program to all personnel who work onsite prior to initiation of field activities, including entry to the access route and whenever a new employee prepares to enter the access route or site once the project is underway (see details below).

b. Accompany and monitor any heavy equipment that is employed to smooth or repair the existing road proposed for vehicle travel and equipment transport to the site. Any tortoises and/or earthen burrows detected along this access route shall be closely monitored and avoided during road smoothing operations, especially during the April through May and September through October seasons when tortoises are most active.

c. Survey the proposed site immediately prior to any surface disturbance to ensure no tortoises or tortoise burrows are present.

d. Maintain a record of all tortoises and/or tortoise burrows detected in proximity to the site and access road.

e. Monitor the installation of temporary tortoise exclusion fencing (USFWS 2005) appropriate to the communications site, which shall be erected around the perimeter of the proposed surface disturbance area, equipment staging, and material storage areas. This fencing should be installed in a manner that avoids any detected desert tortoise burrows and allows for the installation of proposed facility chain-link fencing within the temporary fence perimeter. Upon the completion of all proposed construction and staging activity, this fencing shall be removed. Fencing will not be installed along access routes, which will be monitored as needed.

f. The fence shall be constructed of hardware cloth with a 1/2-inch mesh size unless changed by the Desert Tortoise Management Oversight Group. It shall extend 18 inches above ground and 12 inches below ground. Where burial of the fence is not possible, the lower 12 inches shall be folded outward against the ground and fastened to the ground so as to prevent tortoise entry. The fence shall be supported sufficiently to maintain its integrity. Gate(s) shall be tortoise-proof. This gate shall remain closed except for the immediate passage of vehicles. The fence shall be checked at least monthly and maintained when necessary by ICT to ensure its integrity.

DT-2. ICT shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance with the BLM. The FCR must be onsite during all project activities. The FCR shall have the authority to halt all project activities that are in violation of the stipulations. The FCR shall have a copy of all stipulations when work is being conducted on the site. The FCR may be a crew chief or field supervisor, a project manager, any other employee of ICT, or a project biologist.

DT-3. ICT is responsible for ensuring that the education program to be presented by the qualified biologist is developed and presented prior to conducting activities. The employee education program must be

received, reviewed, and approved by the BLM Resource Area Office at least 15 days prior to the presentation of the program. The program may consist of a class presented by a qualified biologist (BLM or contracted) in person or in a video. Wallet-sized cards or a one-page handout with important information for workers to carry are recommended. The program shall cover the following topics at a minimum:

a. Distribution of the desert tortoise,

b. General behavior and ecology of the tortoise,

c. Sensitivity to human activities,

d. Legal protection,

e. Penalties for violations federal laws,

f. Reporting requirements, and

g. Project protective mitigation measures.

h. Maximum speed limit of 15 mph for all vehicles on the access road and the responsibility of vehicle operators to avoid tortoises that may be encountered along this existing road and onsite.

i. The need to look beneath all vehicles and equipment prior to moving them.

DT-4. Only biologists authorized by the USFWS and the BLM shall handle desert tortoises. The BLM or ICT shall submit the name(s) of proposed authorized biologist(s) to the USFWS for review and approval at least 15 days prior to the onset of activities. No handling activities shall begin until an authorized biologist is approved. 2 Authorization for handling shall be granted under the auspices of the “Biological Opinion for Small Projects in Desert Tortoise Habitat” (USFWS 1997).

a. Desert tortoises may be handled only by an authorized biologist and only when necessary. In handling desert tortoises, an authorized biologist shall follow the techniques form handling desert tortoises in "Guidelines for Handling Desert Tortoises during Construction Projects" (Desert Tortoise Council 1994 [revised1999]).

b. The authorized biologist shall maintain a record of all desert tortoises handled. This information shall include for each tortoise:

i. The locations (narrative and maps) and dates of observations;

ii. General condition and health, including injuries and state of healing and whether animals voided their bladders;

iii. Location moved from and location moved to;

iv. Diagnostic markings (i.e., identification numbers or marked lateral scutes).

v. A photograph of each handled desert tortoise as described in a previous measure.

c. No later than 90 days after completion of construction or termination of activities, the FCR and authorized biologist shall prepare a report for the BLM. The report shall document the compliance with, effectiveness, and practicality of the mitigation measures, the number of tortoises excavated from burrows, the number of tortoises moved from the site, the number of tortoises killed or injured,

and the specific information for each tortoise as described previously. It will summarize all monitoring activity. The report may make recommendations for modifying the stipulations to enhance tortoise protection or to make it more workable in the future. The report shall provide an estimate of the actual acreage disturbed by various aspects of the operation. If any suitable tortoise habitat is impacted by project activities, standard BLM compensation requirements shall apply.

d. Upon locating a dead or injured tortoise, ICT and/or a project biologist is to notify the BLM Resource Area Office. The BLM must then notify the appropriate field office (Carlsbad or Ventura) of the USFWS by telephone within three days of the finding. Written notification must be made within five days of the finding, both to the appropriate USFWS field office and to the USFWS Division of Law Enforcement in Torrance. The information provided must include the date and time of the finding or incident (if known), location of the carcass or injured animal, a photograph, cause of death, if known, and other pertinent information. An injured animal shall be transported to a qualified veterinarian for treatment at the expense of ICT. If an injured animal recovers, the appropriate field office of USFWS should be contacted for final disposition of the animal. The BLM shall endeavor to place the remains of intact tortoise carcasses with educational or research institutions holding the appropriate state and federal permits. If such institutions are not available or the animal's remains are in poor condition, the information noted above shall be obtained and the carcass left in place. If left in place and sufficient pieces are available, the BLM (or its agent) shall attempt to mark the carcass to ensure that it is not reported again. Arrangements for disposition to a museum shall be made prior to removal of the carcass from the field.

e. Workers shall inspect for tortoises under a vehicle prior to moving it. If a tortoise is present, the worker shall carefully move the vehicle only when necessary and when the tortoise would not be injured by moving the vehicle or shall wait for the tortoise to move out from under the vehicle.

f. All trash and food items shall be promptly contained within closed, raven and predator proof containers. These shall be regularly removed from the project site to reduce the attractiveness of the area to ravens and other tortoise predators. In addition to the measures recommended above, any common raven nest constructed on the proposed communication site tower or associated facility shall be reported to the BLM and removed by ICT in the inactive nesting season when the nest is unoccupied by birds.

DT-5. The area of disturbance shall be confined to the smallest practical area, considering topography, placement of facilities, location of burrows, public health and safety, and other limiting factors.

DT-6. Work area boundaries shall be delineated with flagging or other marking to minimize surface disturbance associated with vehicle straying. Special habitat features, such as burrows, identified by the qualified biologist shall be avoided to the extent possible.

DT-7. To the extent possible, previously disturbed areas within the project site shall be utilized for the stockpiling of excavated materials, storage of equipment, location of office trailers, and parking of vehicles. The qualified biologist, in consultation with ICT, shall ensure compliance with this measure.

CDFW

Streambed Alteration Agreement

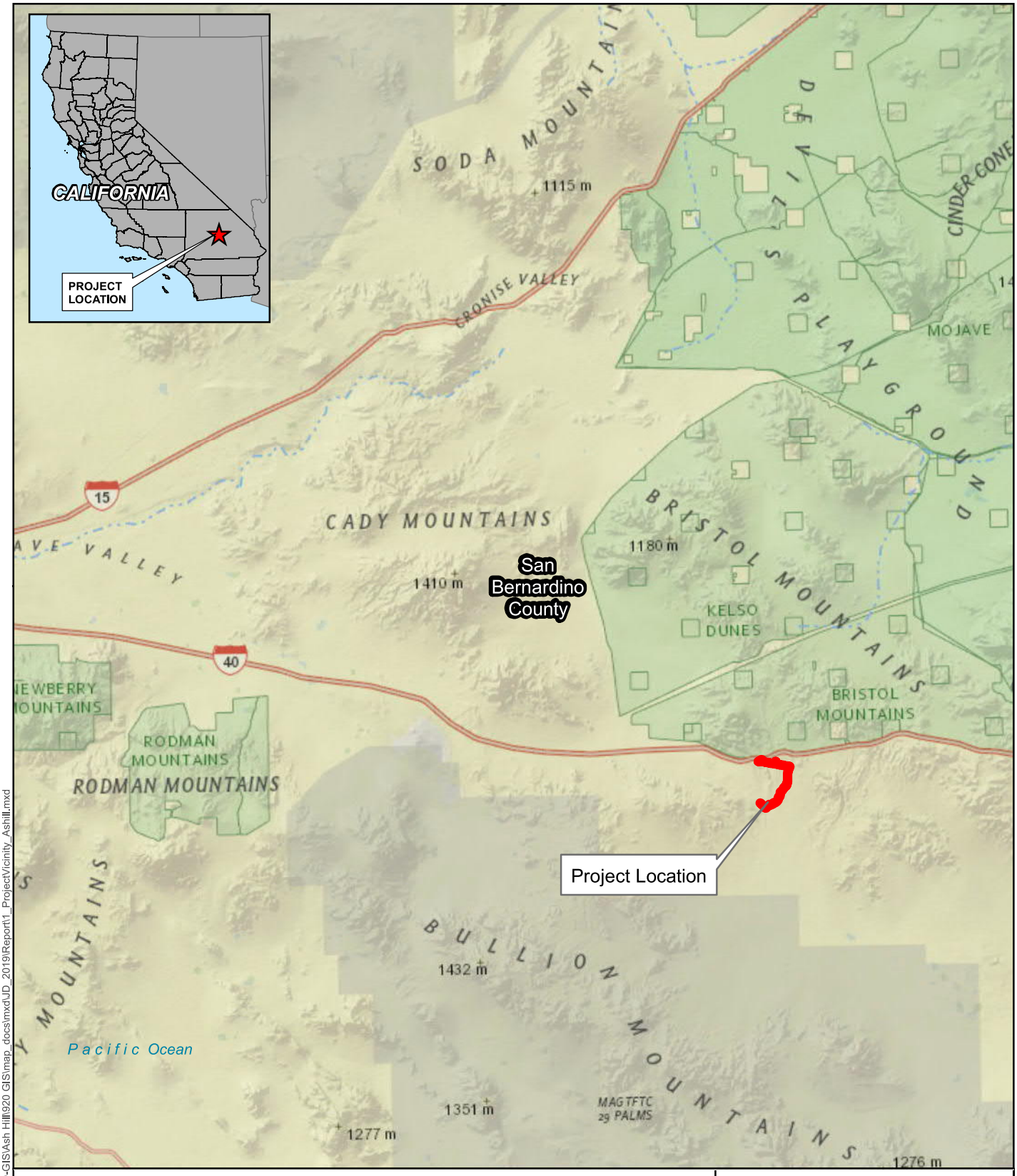
Notification Package

Ash Hill Communication Site Project

Attachment A2.

Figures 1 – 3, 6A – 6C from

JD Report (AECOM 2019);



Legend

Project Location

0 5 10 Miles

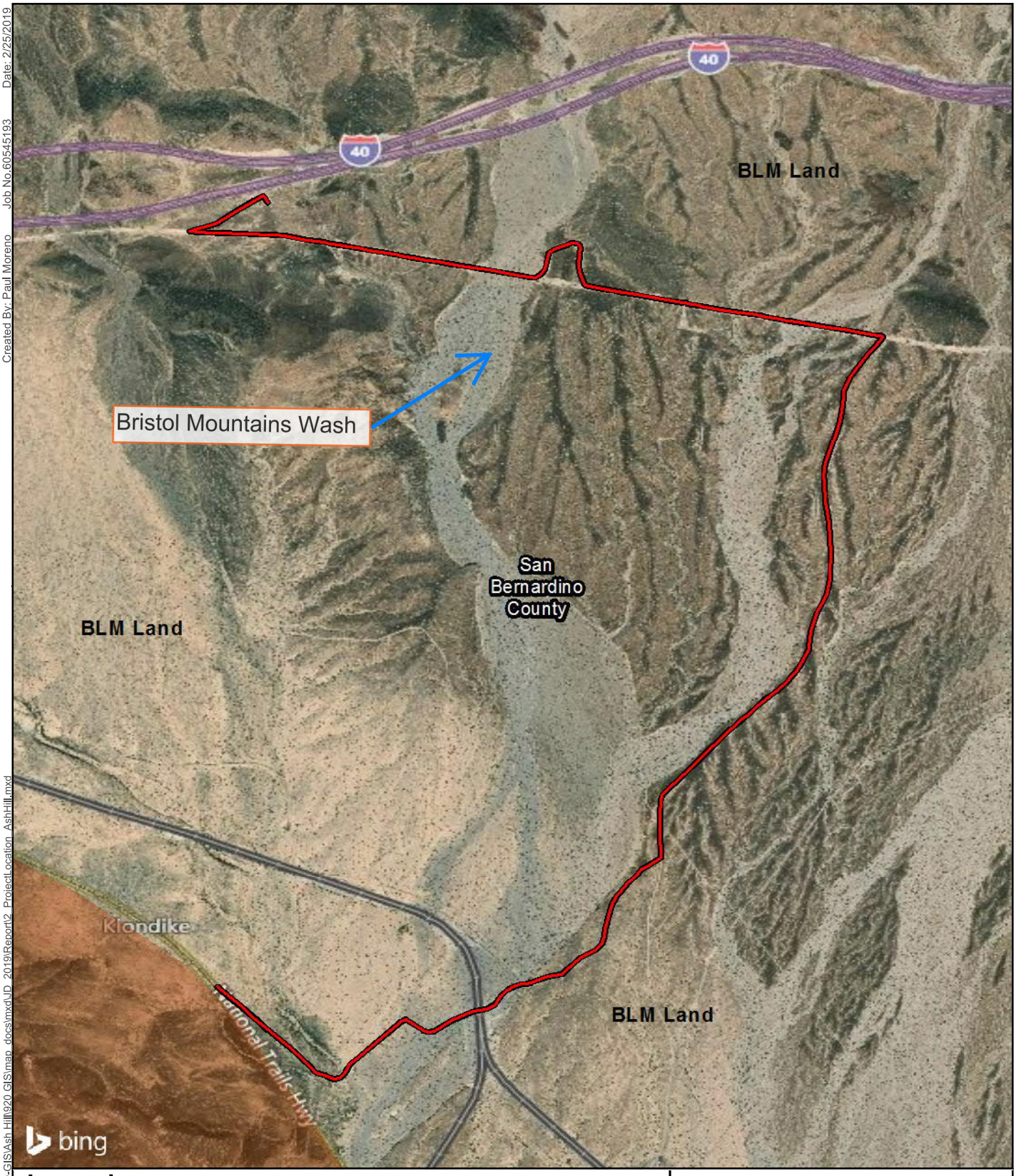
Base Map Source:
ESRI, ArcGIS Online
National Geographic World Map

FIGURE 1
PROJECT VICINITY

Interconnect Towers
Ash Hill Project

AECOM

P:_60531605341139_ICT_Towers\900-CAD-GIS\Ash Hill\920 GIS\map_docs\mxd\JD_2019\Report\1_ProjectVicinity_AshIll.mxd



Date: 2/25/2019
Job No.60545193
Created By: Paul Moreno
P:\ 60531605341139_ICT_Towers\900-CAD-GIS\Ash Hill\920 GIS\map_docs\mxd\JD_2019\Report2_ProjectLocation_AshHill.mxd

Legend

- Project Location
- Access Road 25ft Buffer
- West Mojave Plan Boundary (WEMO)

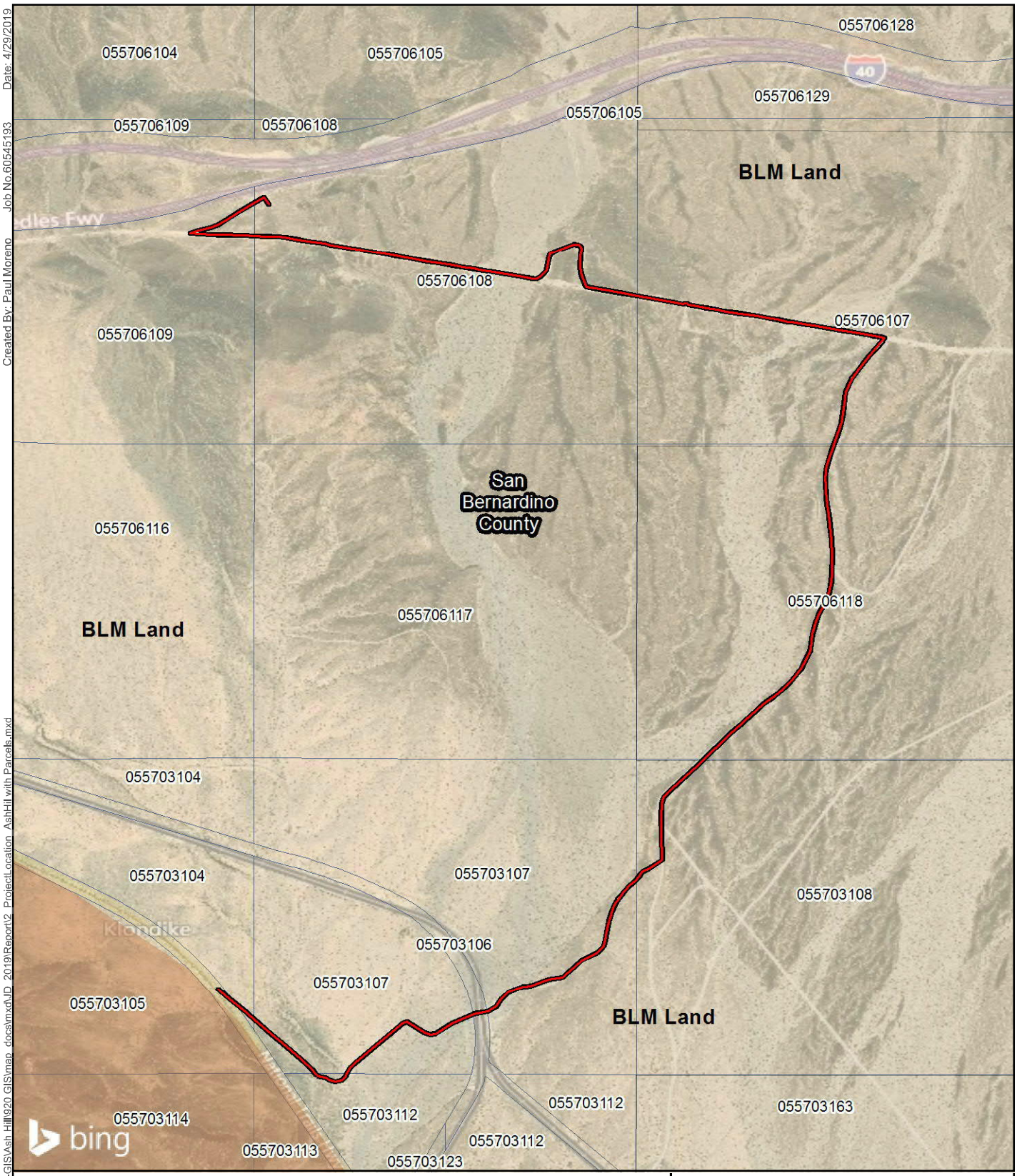
0 2,300 4,600 Feet

Base Map Source:
ESRI, ArcGIS Online
Bing Maps Hybrid

FIGURE 2
PROJECT LOCATION AND LAND OWNERSHIP

Interconnect Towers
Ash Hill Project

AECOM



Date: 4/29/2019
Job No.60545193
Created By: Paul Moreno
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Legend

- Project Location
- Access Road 25ft Buffer
- Parcel
- West Mojave Plan Boundary (WEMO)

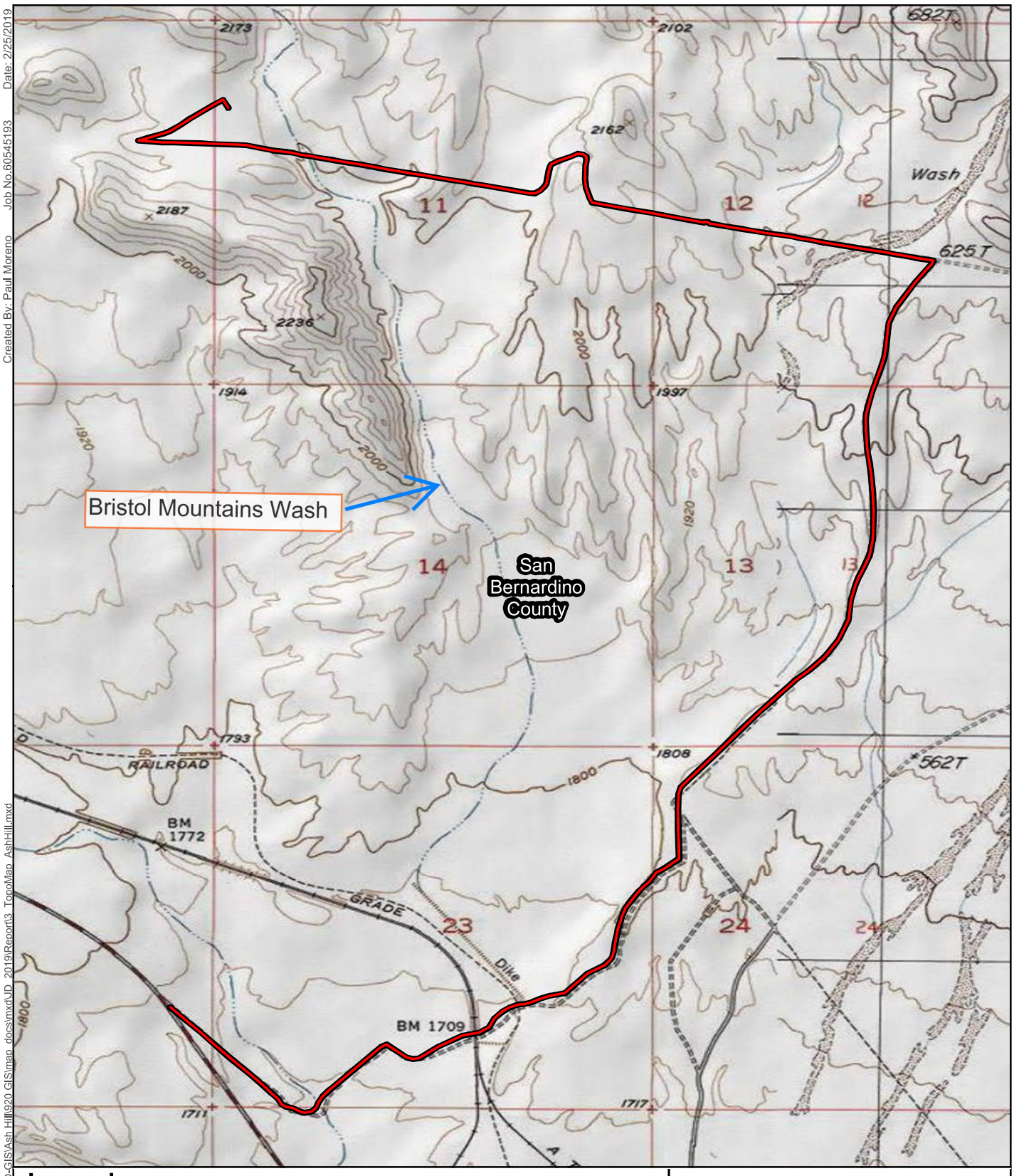
0 2,300 4,600 Feet

Base Map Source:
ESRI, ArcGIS Online
Bing Maps Hybrid

FIGURE 2B
APNs within Project Area

Interconnect Towers
Ash Hill Project

AECOM



Legend

Project Location

Access Road 25ft Buffer

0 2,000 4,000 Feet

Base Map Source:
ESRI, ArcGIS Online
Bing Maps Hybrid

FIGURE 3
TOPOGRAPHY

Interconnect Towers
Ash Hill Project

AECOM

Date: 2/25/2019
Job No.60545193
Created By: Paul Moreno
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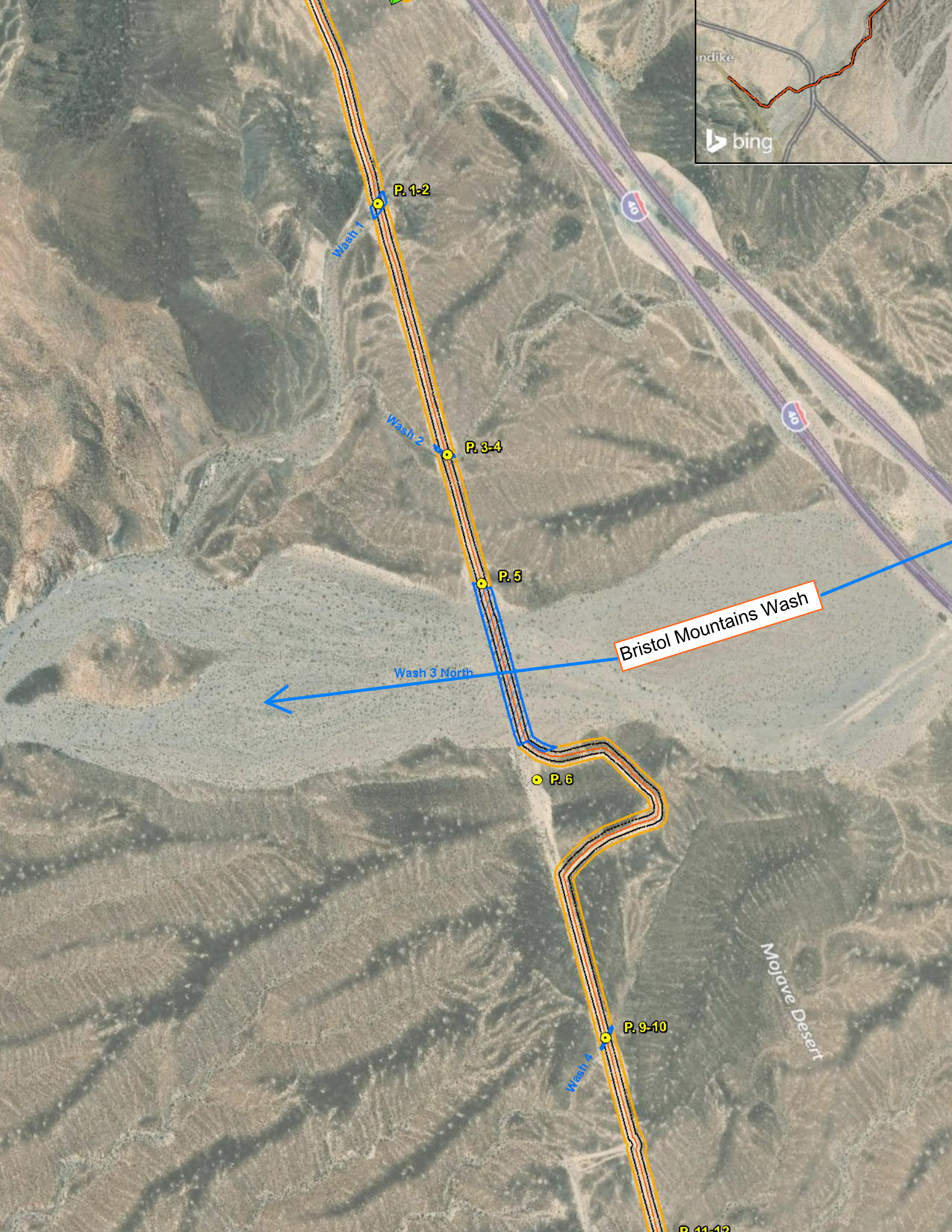
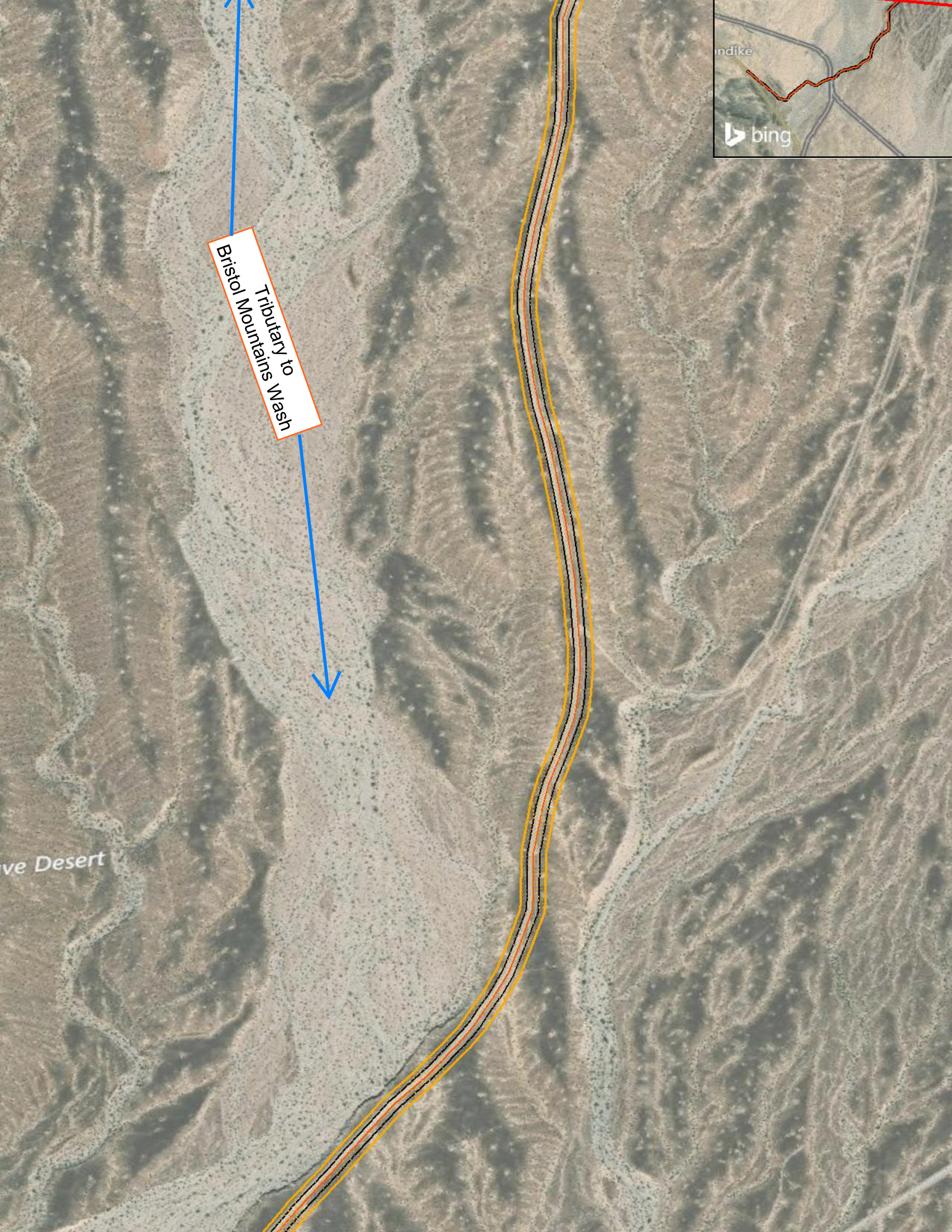

P. 1-2
Wash 1
Wash 2
P. 3-4
P. 5
Bristol Mountains Wash
Wash 3 North
P. 6
P. 9-10
Wash 4
Mojave Desert
40
40
bing


Tributary to
Bristol Mountains Wash
ve Desert
bing


Bristol Mountains Wash
Wash 9
P. 23-24
Wash 10
P. 25-26
Wash 3 South
P. 7-8
Mojave Desert
Mojave Desert
bing

CDFW

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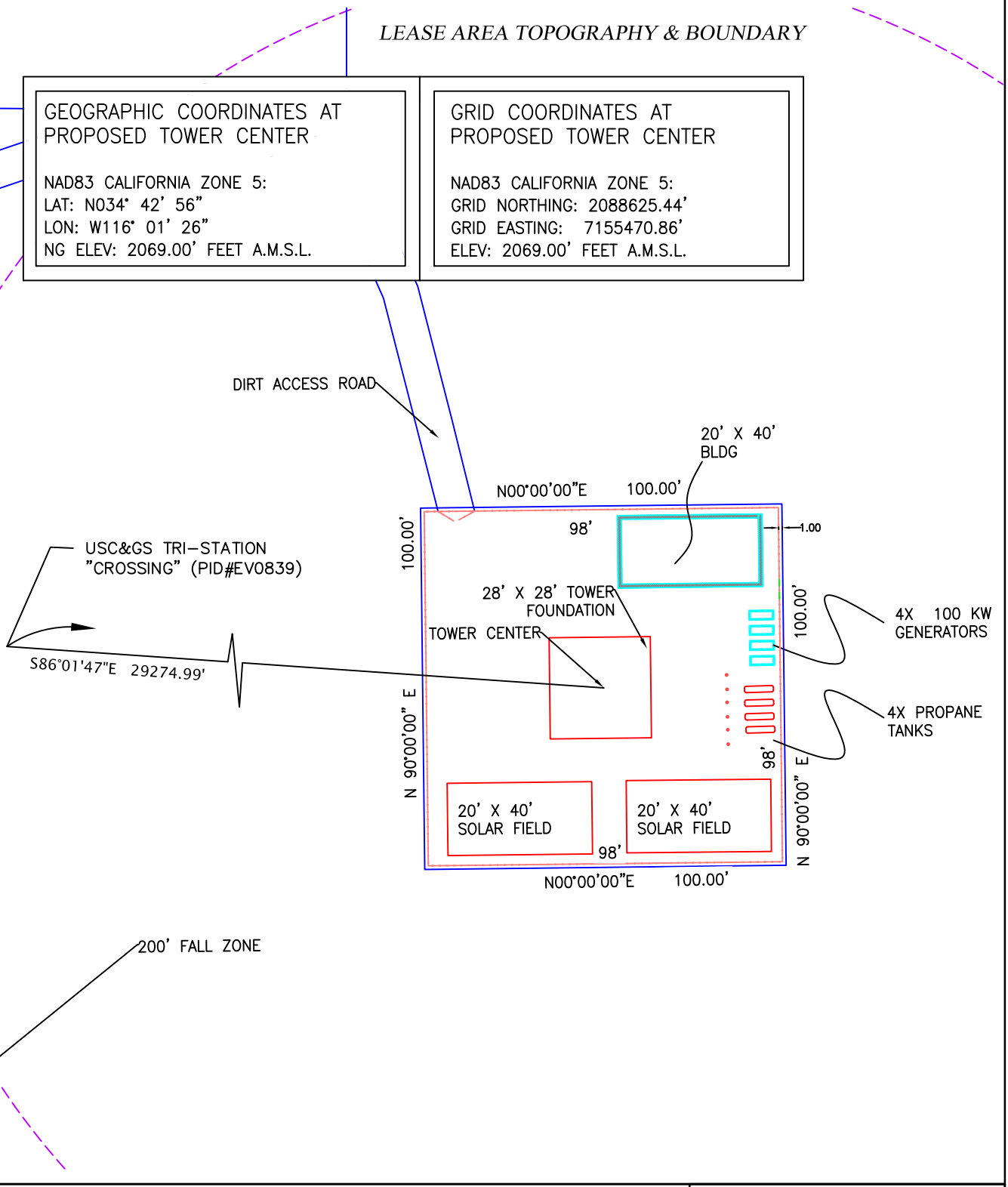
Ash Hill Communication Site Project

Attachment A3. Engineering Plans

(***Revised Plans; dated June 7, 2016***)

LEASE AREA TOPOGRAPHY & BOUNDARY

GEOGRAPHIC COORDINATES AT PROPOSED TOWER CENTER	GRID COORDINATES AT PROPOSED TOWER CENTER
NAD83 CALIFORNIA ZONE 5: LAT: N034° 42' 56" LON: W116° 01' 26" NG ELEV: 2069.00' FEET A.M.S.L.	NAD83 CALIFORNIA ZONE 5: GRID NORTHING: 2088625.44' GRID EASTING: 7155470.86' ELEV: 2069.00' FEET A.M.S.L.



Legend

Not to Scale

COMMUNICATION SITE PLAN

InterConnect Towers
Ash Hill Communication Site

AECOM

\\ussdg1fp001.na.aecomnet.com\DATA\projects_60536\60534139_ICT_Towers\900-CAD-GIS\Ash Hill\930 Graphics\Communications Site Plan.ai dbrady

CDFW

Streambed Alteration Agreement

Notification Package

Ash Hill Communication Site Project

Attachment B. Jurisdictional Delineation Report

(AECOM 2019)

Jurisdictional Delineation of Arid Streams for the Proposed Ash Hill Communication Site San Bernardino County, CA

Unnamed wash, San Bernardino County, CA

Prepared for:

InterConnect Towers, LLC
27762 Antonio Parkway, L1-471
Ladera Ranch, CA 92694

Contact:
Tom Gammon
202-255-7777

Prepared by:

AECOM

Contacts:
John Parent, B.S.; Biologist
Erik Larsen, D. Env.; Sr. Regulatory Specialist
999 Town and Country Road, 2nd Floor; Orange, CA 92868
T 714-648-2043, Email: Erik.Larsen@aecom.com

April 2019

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List of Tables

List of Figures (Appendix A)

Appendices

1.0 EXECUTIVE SUMMARY

InterConnect Towers, LLC (Proponent) proposes to construct, operate, and maintain a multi-carrier communication site and ancillary components, including an access road and above-ground electric power easement, on Bureau of Land Management (BLM)-administered land (Project). The proposed Project would consist of the following proposed components:

- A single three-legged, 196-foot freestanding, self-supporting lattice communication tower on top of a 21-foot triangular base with a 28-foot by 28-foot foundation
- A 20-foot by 40-foot equipment shelter.
- Two 100-kilowatt (kW) backup generators with three 2,000-gallon propane tanks.
- Three 15-foot by 40-foot solar arrays.
- A 12.5-foot-wide entrance gate at the southerly entrance to the lease site and a chain-link fence (Motorola R56 Design Standard or equivalent) measuring 8 to10 feet in height, with three strands of barbed wire on the top, bringing the total height of the fencing to 9 to11 feet around the lease area perimeter. Galvanized hardware mesh with dimensions of 1 inch by 2 inches, would be attached to the lower 18 inches of the chain-link fencing and buried to a 12-inch depth, in accordance with standard specifications for fencing in desert tortoise habitat.

The proposed Project is generally located in San Bernardino County, California, approximately 7.8 miles east of Ludlow, California, just south of the Interstate 40 (I-40) right-of-way (ROW). The proposed Project location is in the NW 1/4 of Section 11, Township 7N, Range 9E, San Bernardino Meridian. The proposed Project is also approximately 340 feet within the boundaries of the Mojave Trails National Monument (MTNM) (Figures 1 and 2; see Appendix A for all figures).

AECOM conducted a jurisdictional delineation (JD) of ephemeral (or episodic) streams within the proposed Project Study Area using standard delineation methodologies: (a) Mapping the Ordinary High Water Mark (OHWM), which is used by the U.S. Army Corps of Engineers (USACE) for determining waters of the U.S. and indirectly used by the Regional Water Quality Control Board (RWQCB) for determining waters of the State; and (b) Mapping Episodic Stream Activity (MESA) (where applicable) as utilized by the California Department of Fish and Wildlife (CDFW). The Study Area for jurisdictional waters includes the proposed communications facilities as well as the proposed existing access route plus a 25-foot buffer in any direction out from the road and the communications tower site. The results presented in Section 6 herein include the description of 11 jurisdictional features, all unnamed, as well as an associated non-jurisdictional swale situated along the access route to the south of I-40 and mapped within the Study Area. Within the Study Area, the JD resulted in 0.77 acre of non-wetland waters of the State and 5.01 acres of CDFW streambeds for a total of 3,411 linear feet (Table 1-1). All of the jurisdictional features are considered isolated features and therefore are not regulated by the USACE as waters of the U.S. The JD also presents an impact analysis for the Study Area.

Table 1-1. Ephemeral Drainage Features within Study Area

Drainage Feature	Waters of the State (acres)	Streambeds (acres)	Linear Feet
Wash 1	0.003	0.096	65
Wash 2	0.004	0.035	24
Wash 3 – North	0.244	1.200	817
Wash 3 – South	0.302	2.487	1,693
Wash 4	0.001	0.022	15
Wash 5	0.002	0.016	11
Wash 6	0.004	0.029	20
Wash 7	0.002	0.028	19
Wash 8 – West	0.137	0.646	440
Wash 8 – East	0.045	0.341	232
Wash 9	0.001	0.024	16
Wash 10	0.001	0.009	6
Wash 11	0.021	0.078	53
Total	**0.77**	**5.01**	**3,411**

2.0 PROPOSED PROJECT

2.1 Background and Purpose of Project

The Proponent seeks to provide improved cellular communication capability within the I-40 corridor and surrounding lands, specifically east of Ludlow, California, and along a portion of U.S. Route 66 (National Trails Highway). I-40 is a heavily traveled roadway that carries regional traffic between southern California and northern Arizona. This segment of I-40 and adjacent lands has been identified as having inadequate cellular transmission coverage, largely due to a current lack of towers in or adjacent to the highway within the coverage area. Wireless telecommunication providers (i.e., Verizon, AT&T, etc.) have determined a need for an additional communication site based on any or all of the following criteria:

- Need to provide signal coverage to an area or zone;
- Need to strengthen/densify coverage to an area or zone;
- Customer demand for coverage;
- Emergency Response Agency demand for coverage;
- Law Enforcement Agency demand for coverage; and
- Federal/Homeland Security demand for coverage.

The proposed Project would remedy the existing coverage deficiencies in the area and would meet one or more of the objectives outlined above. The facility would be made available for collocated use by existing wireless telecommunication providers and other telecommunication service providers. See Figure 1 for a regional location map and Figure 2 for a local vicinity aerial map of the area.

2.2 General Project Description

The proposed Project would entail the issuance of an approximately 0.23-acre ROW grant for the construction, operation, maintenance, and decommissioning and restoration of a multi-carrier communication site and ancillary components, on BLM-administered land.

The Proponent has filed an application for a 30-year ROW grant from the BLM for the proposed construction of the communication facility. The proposed Project site is not ancillary to an existing ROW. The proposed Project would be a multi-tenant wireless communication facility and would be designed to accommodate up to six tenants including a minimum of four national carriers as well as government agencies (police, fire and resource, and highway patrol).

The proposed Project would consist of the following proposed components:

- 100 by 100-foot lease area that includes a single three-legged, 196-foot freestanding, self-supporting lattice communication tower;
- 20-foot by 40-foot equipment shelter ;
- up to two 100-kW backup generators with up to three 2,000-gallon propane tanks;
- up to three 20-foot by 40-foot solar arrays;
- a chain-link fence, with galvanized hardware mesh with dimensions of 1 inch by 2 inches, would be attached to the lower 18 inches of the chain-link fencing and buried to a depth of 12 inches, in accordance with standard specifications for fencing in desert tortoise habitat; and
- a 12.5-foot-wide entrance gate at the southerly line of the lease site.

Detailed information about each of the proposed Project components is provided below.

Tower

The tower would be a self-supporting, three-legged, lattice-style structure, and would be 196 feet in height. The tower would serve as the structure upon which the communication equipment would be mounted. The tower would be placed upon a concrete slab foundation, and would consist of either cast-in-place caissons or shallow foundations designed to carry axial loads and moments of force applied by wind and other factors on the tower. The tower, foundations, and all other structures on the site would be built to professional standards and applicable building codes. Soil tests and other investigations would be performed within the location of the proposed site to determine the specific foundation requirements.

The structural members and bracing units of the tower would be constructed of industry-standard galvanized steel with a silver-gray color tone in conformance with the Applicant-proposed visual resource measures that require non-reflective metal surfaces and tones to reduce glare. A grounding system would also be installed. The types of communication equipment installed on the tower would be similar for the carriers housed at the site and would vary only with the equipment requirements for their specific systems. All systems will generally include a rectangular antenna array, omni antennas, and microwave dishes.

Equipment Shelter and Supporting Components

The site would include an equipment shelter adjacent to the tower to house interior communication equipment. The shelter would likely be a 20-foot by 40-foot slab block building that would be constructed onsite. Alternately, the shelter could be an assemblage of smaller industry standard prefabricated units or equipment cabinets brought by truck and installed onsite. Regardless of construction method, the structure(s) would be mounted on a concrete foundation sized according to structure dimensions and other design requirements. The shelter would be divided into two or more interior compartments or rooms depending upon carrier requirements. The shelter would include an environmental control system for heating, ventilation, and air conditioning (HVAC) to keep the interior of the shelter within the temperature range required for the operation of the electronic communication equipment inside. Alternately, a three or four-sided open air shelter would be constructed.

Electrical power to the proposed Project site would be provided by up to three 15-foot by 40-foot photovoltaic solar arrays. The panels would be approximately 8 feet in height on the south side angling to 15 feet high along the north edge of the solar panels. Electronic equipment would be installed within a series of weatherproof cabinets located beneath the solar panels. The compound would also include up to two 100-kW standby generators located outside of the equipment shelter and mounted on a concrete pad. The generators would provide electric power in the event of failure of grid power or during periods of high electric power consumption. The generators would be powered by propane fed by up to three 2,000-gallon steel tanks located adjacent to the shelter. The generators would include mufflers on the power units to minimize noise.

The communication site facility would be enclosed within a Motorola R56 Design Standard chain-link fence or equivalent measuring 8 to10 feet in height, with three strands of barbed wire on the top, bringing the total height of the fencing to 9 to 11 feet. Galvanized hardware mesh of 1-inch by 2-inch dimensions would be attached to the lower 18 inches of the chain-link fencing and buried to a 12-inch depth or bent outward and secured to the ground. A 12.5-foot-wide entrance gate would provide access into the compound for persons and vehicles. A downward-shielded security light would be mounted within the compound and would be activated by a motion sensor.

Access Road

The access route would primarily utilize a series of existing BLM-designated open access routes off of U.S. Route 66 The access route would utilize U.S. Route 66 to route NS00I 7 to route NS0003 to the proposed Project site for a total of approximately 5.77 miles. The section of access route off of NS0003 leading to the communication facility utilizes previously disturbed land but is considered unauthorized disturbance by the BLM because that section of the route has not been previously authorized with a ROW or designated as an open route. Figure 2 shows the location of the proposed access route.

The access route is currently of adequate width for the site access road and would not require significant improvement (i.e., no widening) to construct the communication site. Any minor grading proposed would be performed to smooth out the existing dirt road similar to road maintenance following heavy rains. No new disturbances would occur aside from that created by continued vehicular access and hauling construction equipment to the proposed communication tower site, as well as limited, necessary road repairs of a 300-foot stretch of route NS0017 located 100 feet northeast of the Atchison, Topeka & Santa Fe railroad alignment and within Wash 3 South and potentially placing material such as gravel over the existing road bed, if road maintenance is required there. Also, light smoothing of the access route may be necessary following heavy rains. Desert tortoise exclusionary fencing would not be installed along access road segments.

3.0 SITE LOCATION

The proposed communication site is in San Bernardino County, California, approximately 7.8 miles east of Ludlow, California, just south of the I-40 ROW.

The center of the proposed communication tower would be located at 34.716083°N, -116.022958°W at an elevation of approximately 2,070 feet above mean sea level. The proposed site, the access road, and all ancillary components would be entirely on BLM-managed lands. See Figure 1 for a regional location map; Figure 2 for a local vicinity aerial photo of the area; and Figure 3 for a topographic map.

The existing access road begins approximately 8.5 miles to the southeast of Ludlow, California, along U.S. Route 66 at 34.679686°N, -116.025251°W.

4.0 REGULATORY SETTING / TERMINOLOGY

The following section briefly summarizes the federal and state statutes and regulations pertaining to the JD conducted for the proposed Project. An Approved Jurisdictional Delineation (AJD) Form has been prepared and attached to this JD report, using the most current AJD Form (per the Clean Water Rule) (Appendix B). The preliminary conclusion is that the drainages onsite are isolated and thus not jurisdictional. Only the USACE, however, can make an official determination.

Because it is assumed that the watershed is isolated (and thus without federal jurisdiction), this delineation report will focus on code, regulation, and policy for California State agencies: the RWQCB and CDFW. Waters of the U.S. as regulated by the USACE[1] (per Clean Water Act [CWA] Section 404) and RWQCB[2] (per CWA Section 401) are not specifically discussed in this report. The use of the OHWM was a defining criterion for this report.[3]

Federal Regulation of Waters of the United States, Including Wetlands (Clean Water Act Sections 404 and 401) (33 U.S.C. 1251-1376)

The USACE and the Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into "waters of the U.S.," including wetlands, under CWA Section 404. The USACE has defined the term "wetlands" as follows: "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstance do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (40 Code of Federal Regulations [CFR] 116.3). Some classes of fill activities may be authorized under general permits if specific conditions are met. Projects that would result in the placement of dredged or fill material into waters of the U.S. require a Section 404 permit from the USACE.

Section 401 of the CWA requires the issuance of a water quality certification or waiver thereof for all Section 404 nationwide or individual permits issued by the USACE. The EPA has deferred water quality certification authority to the State Water Resources Control Board (SWRCB). Most projects are regulated by RWQCBs. The SWRCB directly regulates multi-regional projects and supports and coordinates the program statewide.

4.1 Porter-Cologne Water Quality Control Act

Section 13263 of the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne) authorizes the RWQCB to regulate discharges of waste and fill material to waters of the State, including isolated waters and wetlands. The California Water Code Section 13050(e) defines the waters of the State separately and uniquely from the federal definition as *"…any surface water or groundwater, including saline waters,*

[1] Under Section 404 of the CWA, the USACE regulates the discharge of dredged or fill material into jurisdictional waters of the U.S. (including adjacent wetlands), which include those waters listed in 33 CFR 328.3 (Definitions).
[2] Section 401 of the CWA requires states to certify that any activity that may result in discharge into waters of the U.S. will comply with state water quality standards. All permits issued by the USACE under Section 404 of the CWA require certification pursuant to Section 401. The RWQCB, as delegated by the EPA and SWRCB, is the state agency responsible for issuing a CWA Section 401 Water Quality Certification or waiver. In general, jurisdiction for the RWQCB will be the same as for the USACE, which includes waters of the U.S., including wetlands.
[3] For the purposes of determining the lateral extent of waters of the U.S. (as administered by the USACE/RWQCB for purposes of compliance with Section 404/401 of the CWA), the term OHWM is defined as "That line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

within the boundaries of the State." The state definition places no limitation on the size of stream flow as is implicitly the case for the waters of the U.S. The OHWM concept is indirectly used by the RWQCB to determine waters of the State, and it is not used by the CDFW to delineate stream boundaries for the purpose of determining California Fish and Game Code (CFGC) jurisdiction per the MESA protocol.

The term waters of the State applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes within the state of California, including wetland and/or riparian vegetation and fish and wildlife resources. This designation includes isolated, depressional wetlands, and vernal pools. Waters of the State are regulated by the SWRCB and the RWQCBs. A new policy is in the process of being introduced that will provide increased clarification with respect to waters of the State, especially wetlands, and will introduce additional regulatory requirements.[4]

When the USACE does not regulate drainages within an isolated watershed (e.g., Mojave Desert areas), then the RWQCB will authorize the project per Waste Discharge Requirements (WDRs). General WDRs are available if the applicant meets particular requirements; these WDRs represent a much more streamlined process than individual WDRs.

4.2 California Fish and Game Code (Section 1600 et seq.)

CFGC Sections 1600-1617 (Lake and Streambed[5] Alteration Agreement Program) require consultation with the CDFW if a proposed activity has the potential to detrimentally affect a stream, and thereby wildlife resources that depend on a stream for continued viability. All streams present on a proposed project site must be identified to characterize the potential for adverse project-related impacts on the stream and associated wildlife. Under CFGC Sections 1600 et seq., the CDFW regulates activities that would result in (1) any potential detrimental impacts associated with the substantial diversion or the obstruction of the natural flow of a stream; (2) substantial changes to the bed, channel, or banks of a stream, or the use of any material from the bed, channel, or banks; and (3) the disposal of debris or waste materials that may pass into a stream. CDFW jurisdiction can only be applied once stream presence is identified and a project design is developed to a level of detail adequate to perform impact analysis.

Per informal guidance and current practice, the CDFW may assert its jurisdiction under CFGC Sections 1600 et seq. over activities in stream features laterally to the top of the bank, or to the outer edge of the riparian vegetation (also called the "drip line"), whichever is wider. CDFW jurisdiction may also extend to the limits of the 100-year floodplain. Isolated, "non-streambed" wetlands are typically not regulated by the CDFW. Riparian habitat and wetlands adjacent to streambeds are additional resources that may be regulated by the CDFW.

Riparian habitat refers to areas within and adjacent to rivers, streams, and creeks that support plant species adapted to (or that can tolerate) occasional or permanent flooding and/or saturated soils. Riparian habitat may include areas within the jurisdiction of the USACE and/or CDFW. Typically, USACE jurisdictional areas are much smaller than CDFW jurisdictional areas, and lateral extents vary according to watershed position, water availability, and other factors (Larsen 2007). Riparian vegetation can occur outside of USACE and/or CDFW jurisdiction; however, unique attributes indicate agency jurisdiction and include hydrologic interaction (both laterally and longitudinally) and distinct geomorphic features (e.g., bankfull channel, floodplain, terrace).

[4] Statewide Wetland and Riparian Area Protection Policy Initiative; http://www.swrcb.ca.gov/water_issues/programs/cwa401/wrapp.shtml

[5] The term streambed refers to the bed, bank, and channel geomorphic features associated with streams (in other words, the land beneath a stream).

The California Fish and Game Commission defines the term wetland as: "Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year." (Cowardin et al. 1979).

The approved California Wetland Definition (SWRCB 2019) states: "*An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.*"

4.3 Mojave Trails National Monument

The proposed Project is approximately 340 feet south of the eastbound I-40 ROW and is just within the northerly boundary of the MTNM. Per the Presidential Proclamation signed on February 12, 2016, "The MTNM contains the longest remaining undeveloped stretch of Route 66, offering spectacular and serene desert vistas and a glimpse into what travelers experienced during the peak of the route's popularity in the mid-20th century." The Presidential Proclamation established the following oversight and guidelines for the management of the MTNM:

- The management of the monument is assigned to the Secretary of Interior through the BLM as a unit of the National Landscape Conservation System;
- "Nothing in this proclamation shall be construed to preclude the renewal or assignment of, or interfere with the operation or maintenance of, or with the replacement, modification, or upgrade within or adjacent to an existing authorization boundary of, existing flood control, utility, pipeline, or telecommunications facilities that are located within the monument in a manner consistent with the care and management of the objects identified above. Existing flood control, utility, pipeline, or telecommunications facilities located within the monument may be expanded, and new facilities may be constructed within the monument, but only to the extent consistent with the care and management of the objects identified above."
- "Except for emergency or authorized administrative purposes, motorized vehicle use in the monument shall be permitted only on roads existing as of the date of this proclamation."
- "Laws, regulations, and policies followed by the BLM in issuing and administering grazing permits or leases on lands under its jurisdiction, including provisions specific to the California Desert Conservation Area, shall continue to apply with regard to the lands in the monument, consistent with the care and management of the objects identified above."

4.4 Glossary of Stream and Terrestrial Landforms

The following definitions (Section 4.4.1) are from the MESA Guidebook as used by CDFW (Vyverberg 2010; Brady and Vyverberg 2014; Vyverberg and Brady 2014), as well as the delineation manual for non-wetland waters of the U.S. (Section 4.3.2; Lichvar and McColley 2008; Curtis and Lichvar 2010).

4.4.1 CDFW MESA Terminology

Watercourse – The area within and along which water flows perennially or episodically through one or more channels. Or, the course over which water currently flows, or has flowed as defined by the topography that confines the water to this course when the water rises to its highest level. Where present, low flow channels, active channels, banks associated with these channels, floodplains, swales, islands, and stream-associated vegetation, may all occur within the bounds of a single larger channel designated the "watercourse" to discriminate between it and functionally related but subordinate fluvial landforms that lie within its bounds.

4.4.2 Other USACE, RWQCB, and CDFW Terminology

Active Channel – The ordinary high water zone in low-gradient, alluvial ephemeral/intermittent channel forms in the Arid West is the active floodplain. The dynamics of arid channel forms and the transitory nature of traditional OHWM indicators in arid environments render the limit of the active floodplain the only reliable and repeatable feature in terms of ordinary high water delineation (Lichvar and McColley 2008)[6]. In arid channel systems, the active floodplain functions in the same manner as the bankfull channel within a perennial channel form, in that most of the hydrological and fluvial dynamics produced by repeating effective discharges is confined within its boundaries. Also, the extent of flood model outputs for effective discharges—5- to 10-year events in arid channels—aligns well with the boundaries of the active floodplain, and the characteristic vegetative behavior and sediment texture associated with the active floodplain/low terrace transition are readily observable in aerial photographs and in the field.

Streambeds – This term refers to the bed, bank, and channel geomorphic features associated with streams (in other words, the land beneath a stream). A streambed may include all or a portion of the riparian zone. The lateral extent of streambeds may reach beyond the OHWM (the extent of USACE jurisdiction), and extend laterally beneath the banks where subsurface hydrologic connectivity exists between the stream and the surrounding land. Jurisdiction extends from top-of-bank to top-of-bank. Per internal guidance and accepted practice, jurisdiction may also extend to the outer edge of the riparian corridor, if present (also called the "drip line"), or the limits of the 100-year floodplain. Streambeds are regulated by the CDFW under Section 1600 et seq. of the CFGC.

Waters of the State – Applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes within the state of California, including wetland and/or riparian vegetation and fish and wildlife resources. As defined in Porter-Cologne (revised in 2004; Water Code 13050), waters of the State refers to any surface water or groundwater, including saline waters, within the boundaries of the State of California. This designation includes isolated, depressional wetlands, and vernal pools. Waters of the State are regulated by the SWRCB (if across multiple regions) and RWQCBs. In the context of CWA permitting, the term waters of the State typically implies waters that the USACE has not asserted jurisdiction over. A new policy is in the process of being introduced that will provide increased clarification with respect to waters of the State, especially wetlands, and will introduce additional requirements.[7]

[6] https://www.spl.usace.army.mil/Portals/17/docs/regulatory/JD/FinalOHWMManual_2008.pdf

[7] Statewide Wetland and Riparian Area Protection Policy Initiative; http://www.swrcb.ca.gov/ water_issues/ programs/ cwa401/wrapp.shtml.

Waters of the U.S. – Refers to federally regulated (per CWA Section 404) rivers, creeks, streams and lakes, delineated by an OHWM, and extending upstream to the headwaters. The OHWM is defined as the "*line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas*."[8]

[8] The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

5.0 METHODOLOGY

Prior to conducting field work, AECOM conducted a review of available mapping of watersheds, streams, wetlands, and soils (e.g., National Hydrographic Dataset, NHD [USGS 2018]; National Wetlands Inventory, NWI [USFWS 2018]; Web Soil Survey [USDA-NRCS 2019a,b,c]; CSRL and UC-ANR 2019). AECOM also reviewed accessible aerial photographs of the site from previous years (e.g., Google Earth historical aerials range from 1995 to 2017; Google Earth 2018), in order to observe historical patterns of stream activity. In addition, AECOM reviewed background geological information for the proposed Project site and vicinity, and applicable geological mapping. These pre-field reviews were conducted to obtain contextual information relevant to the site to be surveyed, which may not be evident from the ground during field surveys.

AECOM conducted a field survey to evaluate the presence of CDFW-jurisdictional streambeds and any applicable riparian habitat utilizing the methods as discussed below. AECOM staff visited the Ash Hill Project site on January 30 and 31, 2019. Conditions were cool, cloudy, with trace precipitation (approximately 60 degrees Fahrenheit). Bonnie Hendricks (Sr. Plant Ecologist), and John Parent (Biologist) of AECOM performed the JD and verification of existing vegetation mapping. The field investigation included documenting existing conditions, verifying consistency with existing vegetation data, jurisdictional resources, and land cover classification and mapping, as well as verifying consistency with existing vegetation data (AMEC 2011).

The MESA methodology was utilized to the extent practicable to define CDFW-jurisdictional drainages (or washes).[9] A site transect that allowed for a systematic collection of data that would provide a detailed representation of the primary watercourse within the Study Area was chosen (Figure 6B). Jurisdictional drainage features may include washes, low-flow channels, active floodplains, and secondary channels; collectively these may be termed the "watercourse." Notable drainage features that may or may not be jurisdictional, including swales and erosional features, were also mapped.

A MESA transect was walked during the site visit (Figure 6B), and a MESA data sheet was filled out for this transect area (Appendix B).The transect (across the main drainage feature) included the entire width across the drainage feature (bed, bank, channel of wash; i.e., width across drainage feature). The presence of geomorphic features was noted according to the distance along the transect.

All drainage features were documented, and photo-location points were noted on field maps (e.g., upland, bank, upper/lower floodplain, low-flow channel). Drainages were also mapped with Global Positioning System (GPS) enabled devices, and photograph locations and directions were noted. Potential drainage features were noted where they intersected the Study Area. Site photographs documented transect locations as well as hydrologic indicators and wash vegetation found at each site (Appendix C).

As it is assumed that the waters in this region are isolated and thus non-jurisdictional with respect to the USACE, data sheets specific to the delineation of waters of the U.S., including wetlands, were not

[9] The CDFW Lake and Streambed Alteration Program web page states that "*MESA is intended to assist in identification and mapping of episodic streams when water is absent, and has perhaps been so for several years*." (https://www.wildlife.ca.gov/Conservation/LSA/Resources); MESA References: (a) *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants, With the MESA Field Guide - Final Project Report*. Publication Number: CEC-500-2014-013. February 2014. (http://www.energy.ca.gov/2014publications/CEC-500-2014-013/CEC-500-2014-013.pdf); (b) *Appendix G - The Mesa Field Guide, Mapping Episodic Stream Activity*. Updated 12/18/2014. (http://www.energy.ca.gov/2014publications/CEC-500-2014-013/CEC-500-2014-013-APG.pdf).

completed for this report[10] (Environmental Laboratory 1987; Lichvar and McColley 2008; USACE 2008; Curtis and Lichvar 2010). The following stream and wetland references were used to define and/or characterize potentially jurisdictional features: Cowardin et al. 1979; Lefebvre et al. 2013; CWMW 2014; Wohl et al. 2016; and California Wetlands Portal 2019. Plant species were compiled for the entire site, and scientific names were consistent with standard references (Baldwin et al. 2012; Calflora 2019; Cal-IPC 2018; CNPS 2019, 2018; JFP 2018). Other vegetation-related references consulted included the following: Hanes et al. (1989); Lichvar and Dixon (2007); Buck-Diaz et al. (2011); Menke et al. (2013, 2016).

Vegetation communities were categorized using established systematic classification criteria described in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009; CNPS 2019; CDFW 2018a, b, c; Holland 1986). Alternatively, vegetation communities or land cover types that are not described in *A Manual of California Vegetation* were classified using conventional naming practices (i.e., developed) or were defined by the dominant species. During the field survey, existing vegetation data within the Study Area was verified for consistency using field observations and a high-quality aerial photograph. Updates to the vegetation mapping were made where necessary. After the field investigation, the hand-mapped boundaries were digitized in conjunction with a high-quality aerial photograph using geographic information system (GIS) software from ArcGIS. A list of plant species was compiled by vegetation community; and a list of plant species observed during this survey is included (Appendix D). Plant nomenclature follows *The Jepson Manual-Vascular Plants of California, Second Edition* (Baldwin et al. 2012, JFP 2018, AMEC 2011).

AECOM staff scientists recorded all spatial and attribute data using the Environmental Systems Research Institute (ESRI) ArcCollector application running on Android and Apple (iPad, iPhone) devices. Potentially jurisdictional areas were mapped using a Trimble GeoXH sub-meter receiver connected to the Apple device through a Bluetooth connection. GPS collected spatial data were imported into ArcMap software for post-field processing.

It should be noted that AECOM's use of the MESA mapping for drainage features utilized the top of bank (for small, individual drainages) and watercourse elements (for larger washes) as the lateral extent of jurisdiction. However, application of the MESA methodology resulted in not including some features on the lateral limits of jurisdiction because of the lack of indicators (as described in the MESA protocol).

[10] Applicable datasheets for USACE methodologies, including wetland delineation forms (per the Arid West Supplement, 2008) and/or OHWM Manual (per the OHWM Manual, 2010), were not completed in the field. Nonetheless, the above USACE methodology (OHWM Manual) was utilized to assist in defining and classifying drainage features onsite.

6.0 RESULTS

6.1 Watershed Context and Hydrology

Per current agency requirements, both the USGS Watershed Boundary Dataset and the State of California's CalWater data were accessed to display and describe the watersheds for the proposed Project (Figures 5 and 6). The NWI Map is shown as Figure 7. In general, the watershed is an isolated, inland, desert system, with flows originating in the Bristol Mountains, a small mountain range in the central Mojave Desert, and flowing down to and across the Mojave Desert floor, where the majority, if not all, of the surface water typically dissipates prior to reaching the dry playa, Bristol Lake, the watershed's terminal water body (approximately 23 miles southeast of the proposed Project; Figures 4 and 5). The Lava Hills Watershed is internally drained, with no outlet to coastal areas or navigable waterways. None of the drainages within the Lava Hills Watershed appear to have any connection to interstate or foreign commerce. Therefore, all tributaries within this watershed are considered isolated.

Specifically, the proposed Project is located within the following watershed units:

HUC 8 – Southern Mojave (Figure 4)

- HUC 10 – Lava Hills
    - HUC 12 – Bristol Mountain Wash

10710 – Route Sixty Six (Figure 5)

Watershed (undefined) 10710.100000 Beneficial Uses as discussed in the Colorado River Basin Plan,[11] the following drainage feature and associated beneficial uses are noted:

Drainage Feature (Receiving Water)

Bristol Lake

Beneficial Uses for the receiving waters, Bristol Lake, and other nearby drainages/wetlands include the following:

MUN – municipal/domestic water supply
AGR – agricultural supply
IND – industrial service supply

6.2 Existing Setting and Vegetation Communities

Pre-existing site disturbance conditions were observed along the entire Study Area and consisted of an unpaved dirt access road and railroad bridge. The tower site is located at the terminus of the access road and consists of a largely unvegetated and disturbed area with rubble from a previous disturbance. The access road crosses several ephemeral desert washes along its length. The larger washes have windrowed material along the sections of the road within the Study Area, which have had minor effects on the hydrology within the immediate vicinity. All remaining areas within the Study Area consist of sparsely vegetated Creosote Bush Scrub in the uplands along with unvegetated desert pavement.

[11] https://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_plan/

Observed vegetation communities were mapped within the Study Area and are described below.[12] The field mapping effort complemented the natural communities' literature review. No sensitive vegetation communities with a state rarity rank of S1-3[13] that were identified during the literature review were confirmed present within the Study Area during the reconnaissance survey. Table 6-1 identifies the field-observed vegetation communities and associated acreages within the Study Area, and these communities are illustrated in Figures 6A, 6B, and 6C.

Table 6-1. Vegetation Communities within Study Area

Vegetation Community[1]	Area (acres)
Creosote Bush Scrub	18.69
Cheesebush – Sweetbush Scrub	2.28
Native Vegetation Subtotal	20.97
Disturbed/developed (access roads)	13.99
Total	**34.96**

6.2.1 Upland Vegetation Communities (Adjacent to Episodic Drainages)

Creosote bush (*Larrea tridentata* –Shrubland Alliance). This community is composed of creosote bush as a dominant or co-dominant in the shrub canopy with goldenhead, burro weed, burrobush, spiny saltbush, desert holly, cattle spinach, wooly brickellia, brittle bush, Nevada ephedra, and Anderson thornbush. Emergent trees may be present at low cover, including honey mesquite and Joshua tree. This community occurs within alluvial fans, bajadas, upland slopes, and minor intermittent washes. Soils are well drained, sometimes with desert pavement. The majority of the Study Area is located within this vegetation community, with the exception of those areas that occur directly within the desert washes. Observed pre-existing disturbances were the access road and location of the proposed tower site. The state rarity ranking for this community is S5.

6.2.2 Arid Wash Vegetation Communities

Cheesebush – Sweetbush Scrub (*Ambrosia salsola – Bebbia juncea* Shrubland Alliance). This community is composed of cheesebush (*Ambrosia salsola*) and sweetbush (*Bebbia juncea*) as the dominant shrubs. This community occurs along intermittently flooded channels, arroyos and washes; valleys, flats, and rarely flooded low-gradient deposits. Soils are alluvial, sandy and gravelly, and disturbed desert pavement. Most portions of the Study Area that exist within the desert washes occur within this community. The state rarity ranking for this community is S4.

6.3 Soils and Geology

The proposed Project is located in the Mojave Desert on the south slope of the Bristol Mountains, which consists of a southward-sloping alluvial fan interspersed with outcrops of bedrock (Diblee and Minch 2008; Appendix E). These mountains are part of the Basin and Range physiographic province, which in the vicinity of the site consists of northwest-southeast–trending mountain ranges and valleys. The mountains are often associated with normal and strike slip faults that also trend northwest-southeast

[12] Communities were described using *A Manual of California Vegetation Online* (http://vegetation.cnps.org/).
[13] California Native Plant Society (CNPS) utilizes a ranking system to assign an imperilment status for plant communities within California. They are as follow: S1 = Critically Imperiled – Critically imperiled in the state because of extreme rarity, 5 or fewer occurrences. S2 = Imperiled – Imperiled in the state because of rarity due to very restricted range, 20 or fewer occurrences. S3 = Vulnerable – Vulnerable in the state due to a restricted range, 80 or fewer occurrences. S4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors. S5 = Secure – Common, widespread, and abundant in the state.

although no mapped faults occur within the proposed Project. Also occurring in the vicinity of the proposed Project is the Barstow-Amboy Axis, a west-northwest to east-southeast–trending line along which a series of basalt volcanos occur, including Malpais Crater at the west-northwest end of the axis to Amboy Crater at the east-southeast end (Norris and Webb 1990). Some of the volcanic rocks found within the proposed Project Study Area are associated with the axis volcanos. Only the cinder cone at Amboy Crater has been dated at 79,000 years old (Phillips 2003). All of the basalts in the Barstow-Amboy Axis are estimated to be Quaternary in age.

Soil survey data were not available for this portion of the desert; thus, no soil mapping was developed for this report.

Geology in the proposed Project study area can be divided into the following principal groups:

- Bedrock outcrops, which constitute the oldest rocks in the proposed Project study area.
- Alluvial fan deposits of which there are two types.

The bedrock outcrops consist of late Tertiary/early Quaternary volcanic rocks including rhyolitic tuffs (Tr), volcanic tuff breccia (Tt), and basalt (Tb and QTb) associated with the Barstow-Amboy Axis and occur as isolated low hills rising above the alluvial plains in the northern half of the site as well as a more contiguous outcrop in the southwest corner of the site as part of a subrange of the Bristol Mountains.

Alluvial deposits in the proposed Project study area can be divided into an older unit (Qoa) and a younger unit (Qa). The older unit is composed of poorly to moderately sorted sand, gravel, and cobbles and occurs in the higher areas of the alluvial plain. Analysis of aerial photography indicates that Qoa sediments are distinguished from the Qa sediments by their darker overall coloring due to manganese oxide coatings (desert varnish) on these sediments. These deposits have been eroded into distinctive ridges and gullies, which drain into active braided channels occupied by Qa.

The younger unit (Qa) consists of younger alluvial sediments ranging in size from silty sand to cobbly gravels. They occur in the braided channels that dissect the Qoa sediments. Many of the Qoa sediments occur as isolated islands within the braided Qa channels. In the north, the Qa channels are numerous but less than several hundred feet wide; however, downstream (south), they coalesce to form channels several thousand feet wide.

6.4 Ephemeral Drainage Features within the Study Area

Eleven ephemeral drainages, all unnamed, and several small, unnamed non-jurisdictional features south of I-40 were observed within the Study Area. The proposed Project is expected to impact one of the unnamed ephemeral drainages within the Study Area (Figure 6C). Table 6-2 provides a summary of jurisdictional features within the Study Area. The potentially jurisdictional feature where impacts are expected was classified according to arid stream type and vegetation community in Table 6-3.

Table 6-2. Ephemeral Drainage Features within Study Area

Feature	Waters of the State		Streambeds	Linear Feet
	Approx. Width (feet)	OHWM (acres)	TOB (acres)	
Wash 1	10	0.015	0.078	65
Wash 2	12	0.018	0.020	24
Wash 3 – North	760	0.244	0.978	817
Wash 3 – South	75–480	0.302	1.832	1,693
Wash 4	3	0.004	0.018	15
Wash 5	5	0.007	0.012	11
Wash 6	12	0.017	0.022	20
Wash 7	7	0.010	0.023	19
Wash 8 – West	425	0.137	0.510	440
Wash 8 – East	140	0.045	0.266	232
Wash 9	3	0.004	0.019	16
Wash 10	2	0.003	0.010	6
Wash 11	65	0.094	0.057	53
Total	**NA**	**0.77**	**3.845**	**3,411**

OHWM = ordinary high water mark; TOB = Top of Bank

Table 6-3. Classification of Waters of the State and Streambeds Expected to Be Impacted

Feature	Approximate Width (feet)	Classification (Cowardin)	Vegetation Community or Other Land Cover Type	Jurisdictional Unit
Waters of the State and Streambeds				
Wash 3 North	760	R6 - Riverine, Ephemeral; HGM - Riverine	Non-vegetated, Low Flow Channel / Vegetated Watercourse	RWQCB – OHWM; CDFW – TOB
Wash 3 South	75 / 480	R6 - Riverine, Ephemeral; HGM - Riverine	Non-vegetated, Low Flow Channel / Vegetated Watercourse	RWQCB – OHWM; CDFW – TOB
Riparian Habitat				
Wash 3 North	760	Riverine	Cheesebush – Sweetbush Scrub (*Ambrosia salsola – Bebbia juncea*) Shrubland Alliance.	CDFW – Watercourse
Wash 3 South	75 / 480	Riverine	Cheesebush – Sweetbush Scrub (*Ambrosia salsola – Bebbia juncea*) Shrubland Alliance.	CDFW – Watercourse

Definitions: USACE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife; TOB = Top of Bank; HGM = Hydrogeomorphic.

A. Wash 1 – A wash that flows through the northwestern portion of the Study Area, flowing generally from north to south. It is mainly a single, trapezoidal-shaped channel, with an approximately 10-foot-wide gravelly and sparsely vegetated bottom, emptying into Wash 3 about 0.45 mile downstream of the intersection with the Study Area. A smaller wash, Wash 2, flows into this channel downstream of the intersection with the Study Area (Figure 6A).

B. Wash 2 – A wash that flows through the northwestern portion of the Study Area, flowing generally from northeast to southwest. It is mainly a single, trapezoidal-shaped channel, with an approximately 12-

foot-wide predominantly gravel and sparsely vegetated bottom, draining into Wash 1 to the south of the Study Area (Figure 6A).

C. Wash 3 (North and South) – The largest wash within the Study Area, it intersects the Study Area in the north and again, 2.25 miles to the south, and flows from north to south. For ease of discussion, Wash 3 is broken up into North and South components (Figures 6A and 6C).

- **North:** Approximately 760-feet wide at the northern intersection of the Study Area, Wash 3 North is a low-gradient floodplain that consists of multiple small braided channels, with no clearly defined OHWM, and is bounded to the east and west by natural landforms. The bottom consists of coarse, large-grained sand and gravel, and is sparsely vegetated with Creosote – Cheesebush Scrub (Figure 6A).
- **South:** Ranging from approximately 75 feet to 480 feet wide at the southern intersection of the Study Area, Wash 3 South is a broad, low-gradient sandy bottomed channel that consists of a main low-flow channel and several braided channels. The previous construction of the railroad and associated bridge has constrained the channel to a smaller area, leaving a large portion of the original channel abandoned. The bottom consists of coarse, large-grained sand and gravel, and is sparsely vegetated with Cheesebush-Sweetbush Scrub. The existing access road runs along the bottom of the channel for approximately 1,300 feet at this location (Figure 6C).

D. Wash 4 – A wash that flows through the northern portion of the Study Area, flowing generally from northwest to southeast. It is a shallow, low-gradient channel, with an approximately 3-foot-wide gravel and unvegetated bottom, flowing into Wash 3 approximately 1.3 miles south of the Study Area (Figure 6A).

E. Wash 5 – A wash that flows through the northern portion of the Study Area, flowing generally from north to south. It is a single, trapezoidal-shaped channel, with an approximately 5-foot-wide sandy unvegetated bottom, flowing into Wash 6 approximately 0.1 mile south of the Study Area (Figure 6A).

F. Wash 6 – A wash that flows through the northern portion of the Study Area, flowing generally from north to south. It is a single, trapezoidal-shaped channel, with an approximately 12-foot-wide sandy and gravelly, sparsely vegetated bottom, flowing into Wash 8 approximately 0.13 mile south of the Study Area (Figure 6A).

G. Wash 7 – A wash that flows through the northern portion of the Study Area, flowing generally from northeast to the southwest. It is a single, trapezoidal-shaped channel, with an approximately 7-foot-wide gravelly unvegetated bottom, flowing into Wash 6 approximately 0.1 mile south of the Study Area (Figure 6B).

H. Wash 8 (East and West) – The second largest wash within the Study Area, it intersects the Study Area in the northeast and flows generally from north to south. The wash splits just north of the Study Area and converges approximately 0.4 mile to the south, forming an island. For ease of discussion, Wash 8 is broken up into East and West components (Figure 6B).

- **West:** Approximately 425 feet wide at the western intersection of the Study Area, Wash 8 West is a low-gradient floodplain that consists of multiple small braided channels and is bounded to the east and west by natural landforms. The bottom consists of coarse, large-grained sand, gravel, and cobble sparsely vegetated with Creosote – Cheesebush Scrub (Figure 6B).

- **East:** Approximately 140 feet wide at the eastern intersection of the Study Area, Wash 8 East is a low-gradient floodplain that consists of multiple small braided channels and is bounded to the east and west by natural landforms. The bottom consists of coarse, large-grained sand, gravel, and cobble sparsely vegetated with Creosote – Cheesebush Scrub. Functionally, the channel is approximately 60 feet wide and is constrained to the western portion of the original channel by existing berms that appear to have been made during construction or maintenance of the road. The vegetation within the eastern portion of the channel is less dense in comparison to the western portion (Figure 6B).

I. Wash 9 – A wash that flows through the central portion of the Study Area, flowing generally from north to south. It is a single, low-gradient, approximately 3-foot-wide sparsely vegetated channel, flowing into an unidentified wash south of the Study Area (Figure 6C).

J. Wash 10 – A wash that flows through the central portion of the Study Area, flowing generally from north to south. It is a single, low-gradient, approximately 2-foot-wide sparsely vegetated channel, flowing into Wash 3 south of the Study Area (Figure 6C).

K. Wash 11 – A wash that flows through the southern portion of the Study Area, flowing generally from northwest to southeast. It is a single, shallow channel, with an approximately 65-foot-wide sandy and unvegetated bottom, flowing into Wash 3 approximately 650 feet to the southeast of the Study Area (Figure 6C).

7.0 IMPACTS

7.1 Impact Corridors

The impact area for the proposed Project is a 25-foot-wide area that will follow an existing dirt access road. Use of the existing access roads will reduce potential impacts. Expected impacts were calculated by assuming that the road repair within Wash 3 – South would be approximately 25 feet in width and 300 feet in length.[14] Table 7-1 shows the acreage of waters of the State and streambeds associated with the impact corridor.

Table 7-1. Overview of Anticipated Impacts within Study Area

	Waters of the State – Ordinary High Water Mark (acres)	Streambeds - TOB (acres)	Linear Feet
Feature			
A. Wash 3 – South	0.172	0.172	300
Total	**0.17**	**0.17**	**300**

*Represents total potential impacts to all jurisdictional features.

7.2 Avoidance, Minimization, and Mitigation Measures

Mitigation measures are recommended as precautionary measures relevant to the protection of biological resources, and are required to offset potentially significant adverse proposed Project impacts. A reporting mechanism will be associated with the measures, in order to document mitigation completion and performance. Potential impacts to ephemeral drainages will be avoided, minimized, and/or mitigated by incorporation of Project-specific mitigation measures.

1. *Limits of Disturbance*. All equipment and workers will remain within approved work limits. Work limits will be designated with lathe staking or a similar method. Impacts to vegetation outside of the access road are not anticipated.

2. *Water Quality*. Equipment and materials will be staged within the alignment and away from water drainages. Parked equipment will have secondary containment to prevent any fluid leaks coming into contact with the ground surface. Any hazardous waste spills will be immediately cleaned up and reported to the qualified biologist.

3. *Use of Disturbed Areas*. Wherever possible, construction personnel shall utilize existing access roads or previously disturbed areas to reach the Project or stage their vehicles and equipment.

4. *Regulatory Permits*. Prior to approval of the Project plans and specifications, the Proponent shall confirm that the plans and specifications stipulate that, prior to commencement of construction activities, the Proponent shall coordinate with the RWCQB to obtain a WDR pursuant to the California Water Code. Additionally, the Proponent shall obtain a Streambed Alteration Agreement from the CDFW pursuant to Section 1602 of the CFGC. The RWQCB will likely require a letter from the USACE regarding the applicability of Section 404 permits, and to verify that the watershed is indeed an “isolated watershed” where the USACE does not require a Section 404 permit.

[14] Impacts have been calculated based on the worst-case-scenario. It is likely that actual impacts will be less.

8.0 DISCUSSION

8.1 Summary

The results include the description of the 11 unnamed jurisdictional features, as mapped within the Study Area. Within the Study Area, the JD resulted in 0.77 acre of waters of the State and 3.845 acres of CDFW streambeds for a total of 3,411 linear feet. The JD also presents an impact analysis for a 25-foot corridor.

8.2 Regulatory Requirements

The Project as proposed would potentially affect waters of the State / streambeds subject to RWQCB and CDFW jurisdiction.[15] A WDR should be prepared and submitted to the Colorado River RWQCB[16] for review and a permit must be issued before Project construction could begin.

Due to the isolated nature of the Bristol Mountains Wash watershed, the USACE is not expected to regulate Project activities under Section 404 of the CWA; therefore, no application (or associated OHWM Data forms, Preliminary Jurisdictional Determination form) for a USACE CWA Section 404 dredge/fill permit will be required. It is recommended to obtain a letter from the USACE confirming this conclusion.

In some cases where a CWA section 404 permit will not be issued by the USACE for the Project, coverage under General WDRs (GWDRs) may be appropriate. This application can be used to apply for coverage under the following GWDRs:

> **WQO-2004-0004-DWQ**
> **General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction**
> http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf
> Regulates minor discharges of dredged or fill material to waters of the State waters not subject to Clean Water Act Section 404. Waters of the state means any surface water or groundwater, including saline waters, within the boundary of the state, including wetlands and riparian areas. Usage for land development, disposal of dredged material, bed and bank modifications, and other similar projects is restricted to size limits in the order (must be less than 0.2 acre).

Application to the Colorado River Region utilizes the same application as for the 401 Certification:

> Colorado River for CWA 401 and WDR for Dredge and Fill Projects. https://www.waterboards.ca.gov/coloradoriver/water_issues/programs/401_certification/docs/401_apform_r7.docx; https://www.waterboards.ca.gov/coloradoriver/water_issues/programs/401_certification/instructions_401.shtml

[15] Streambeds or watercourses jurisdictional per California Fish and Game Code 1600 *et seq*.
[16] Colorado River Regional Water Quality Control Board, 73-720 Fred Waring Drive, Suite 100, Palm Desert, CA 92260; http://www.waterboards.ca.gov/coloradoriver/.

A Notification of Lake or Streambed Alteration should be prepared and submitted to CDFW Inland Deserts Region No. 6 [17] for review and an agreement must be issued before Project construction could begin.

> **Lake or Streambed Alteration Notification Form (PDF Form).**
> https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=3754;
> https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=3773&inline

[17] CDFW Inland Deserts Region (Region 6); 3602 Inland Empire Blvd, Suite C-220, Ontario, CA 91764; (909) 484-0167; AskRegion6@wildlife.ca.gov.

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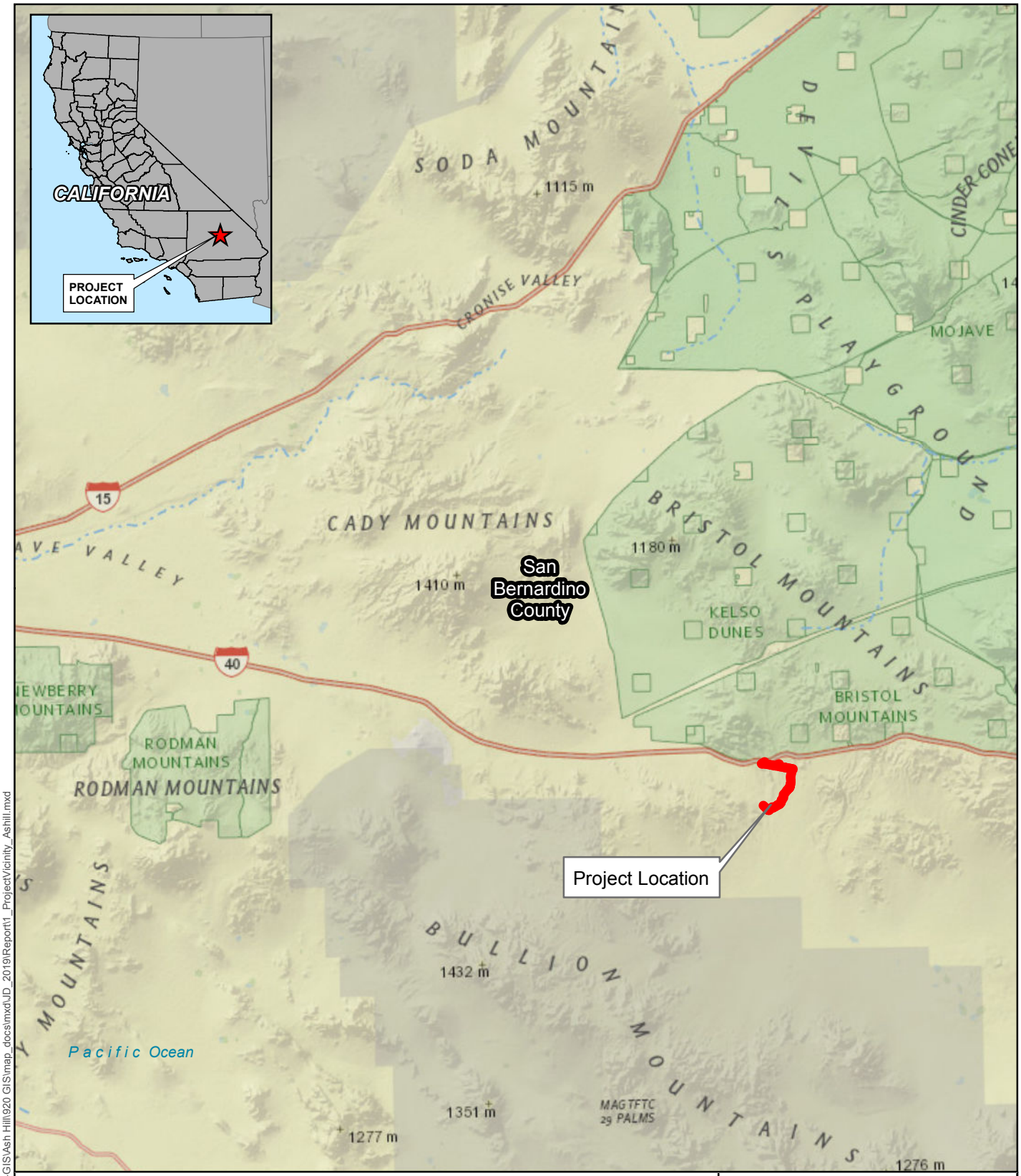
Appendix A

Figures 1 Through 7



Legend

Project Location

0 5 10 Miles

Base Map Source:
ESRI, ArcGIS Online
National Geographic World Map

FIGURE 1
PROJECT VICINITY

Interconnect Towers
Ash Hill Project

AECOM

P:_6053\60534139_ICT_Towers\900-CAD-GIS\Ash Hill\920 GIS\map_docs\mxd\JD_2019\Report\1_ProjectVicinity_Ashill.mxd

Legend

- Project Location
- Access Road 25ft Buffer
- West Mojave Plan Boundary (WEMO)

0 2,300 4,600 Feet

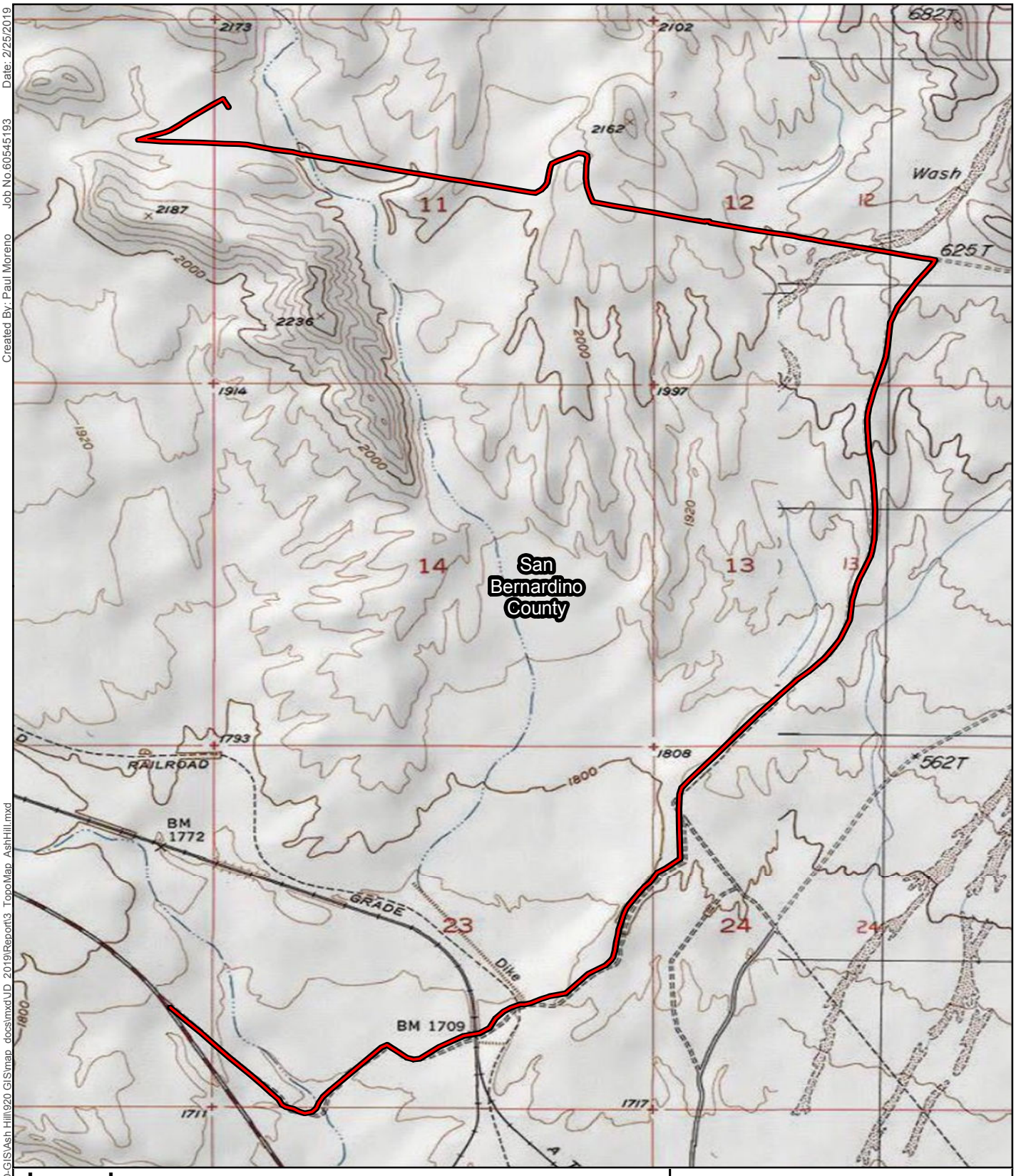
Base Map Source:
ESRI, ArcGIS Online
Bing Maps Hybrid

FIGURE 2
PROJECT LOCATION AND LAND OWNERSHIP

Interconnect Towers
Ash Hill Project

AECOM

Date: 2/25/2019
Job No.60545193
Created By: Paul Moreno
P:\ 60531\60534139 ICT Towers\900-CAD-GIS\Ash Hill\920 GIS\map docs\mxd\JD 2019\Report2 ProjectLocation AshHill.mxd



Legend

- Project Location
- Access Road 25ft Buffer

0 2,000 4,000 Feet

Base Map Source:
ESRI, ArcGIS Online
Bing Maps Hybrid

FIGURE 3
TOPOGRAPHY

Interconnect Towers
Ash Hill Project

AECOM

P:\ 60531\60534139 ICT Towers\900-CAD-GIS\Ash Hill\920 GIS\map docs\mxd\JD 2019\Report\3 TopoMap AshHill.mxd Created By: Paul Moreno Job No.60545193 Date: 2/25/2019

Legend

- Project Location
- Watershed Boundary HUC 12 - Bristol Mountain Wash
- Watershed Boundary HUC 10 - Lava Hills
- Watershed Boundary HUC 8 - Southern Mojave
- County Boundary

0 11.5 23 Miles

Base Map Source:
ESRI, ArcGIS Online
Bing Map Hybrid

FIGURE 4
WATERSHED BOUNDARY DATASET

Interconnect Towers
Ash Hill Project

AECOM

P:\ 60534139 ICT Towers\900-CAD-GIS\Ash Hill\920 GIS\map docs\mxd\JD 2019\Report4 Watershed AshHill.mxd

Legend

- Project Location
- CalWatershed
- County Boundary

0 7.5 15 Miles

Base Map Source:
ESRI, ArcGIS Online
Bing Map Hybrid

FIGURE 5
CALWATER WATERSHEDS

Interconnect Towers
Ash Hill Project

AECOM

P:\ 60534139 ICT Towers\900-CAD-GIS\Ash Hill\920 GIS\map docs\mxdUD 2019\Report5 Calwaters AshHill.mxd

Created By: Jason Sokol Job No.60545193 Date: 3/22/2019

Legend

- JD Photo Point
- Tower Location
- Mesa Transect
- Access Road
- Access Road 25ft Buffer

Vegetation & Drainages (AMEC)

- Creosote Bush Mixed Scrub
- Desert Wash System (Drainages)

0 550 1,100 Feet

Base Map Source:
ESRI, ArcGIS Online
Bing Maps Hybrid

FIGURE 6A
VEGETATION AND JURISDICTIONAL DELINEATION

Interconnect Towers
Ash Hill Project

AECOM

P:_6053\60534139_ICT_Towers\900-CAD-GIS\Ash Hill\920 GIS\map_docs\mxd\JD_2019\ReportVeg_JD_MapA.mxd

Created By: Jason Sokol Job No.60545193 Date: 3/22/2019

P:_60536060534139_ICT_Towers\900-CAD-GIS\Ash Hill\920 GIS\map_docs\mxd\JD_2019\Report\Veg_JD_MapB.mxd

Legend

- JD Photo Point
- Mesa Transect
- Access Road
- Access Road 25ft Buffer

Vegetation & Drainages (AMEC)

- Creosote Bush Mixed Scrub
- Desert Wash System (Drainages)

0 550 1,100 Feet

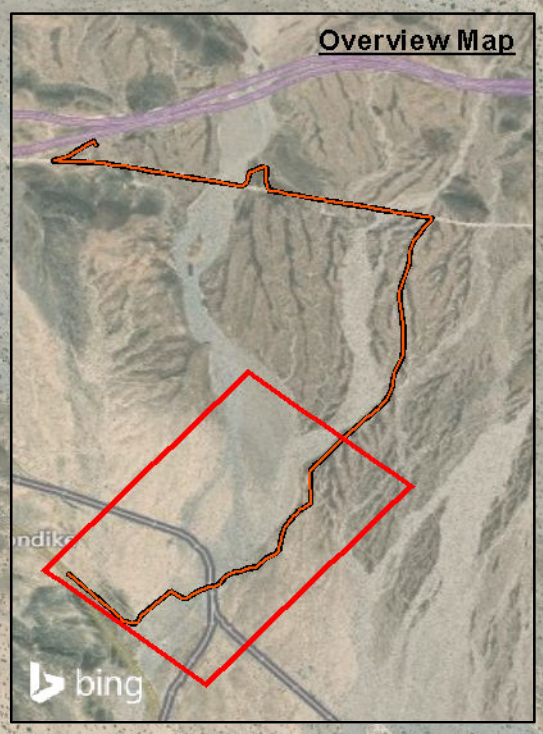
Base Map Source:
ESRI, ArcGIS Online
Bing Maps Hybrid

FIGURE 6B
VEGETATION AND JURISDICTIONAL DELINEATION

Interconnect Towers
Ash Hill Project

AECOM

Created By: Jason Sokol Job No.60545193 Date: 3/22/2019



Wash 9

P. 23-24

Wash 10

P. 25-26

Wash 3 South

P. 7-8

Wash 11

P. 27-28

Mojave Desert

Mojave Desert

Mojave D

National Trails Hwy

bing

Legend

- JD Photo Point
- Mesa Transect
- Access Road
- Access Road 25ft Buffer

Vegetation & Drainages (AMEC)

- Creosote Bush Mixed Scrub
- Desert Wash System (Drainages)

0 550 1,100 Feet

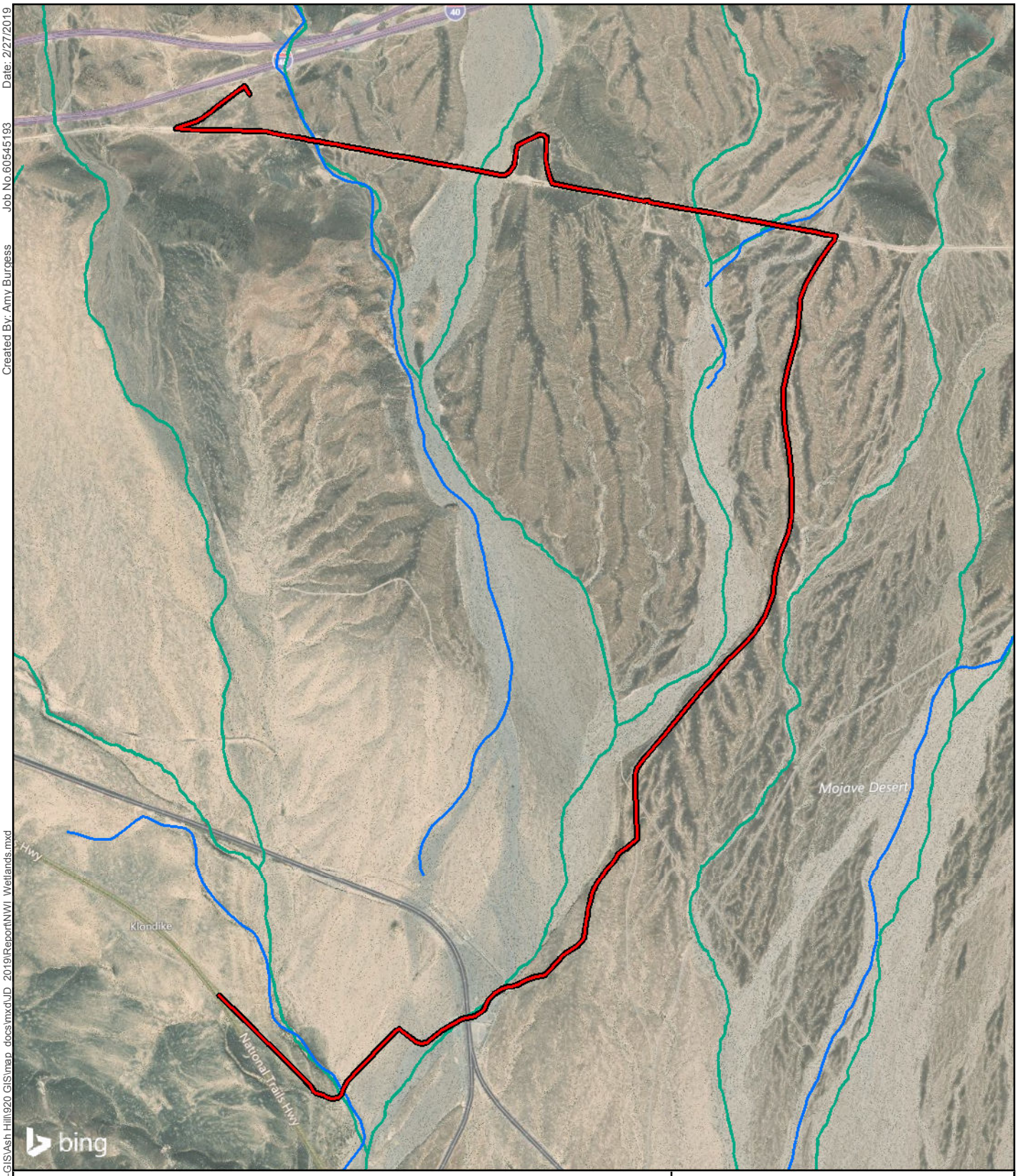
Base Map Source:
ESRI, ArcGIS Online
Bing Maps Hybrid

FIGURE 6C
VEGETATION AND JURISDICTIONAL DELINEATION

Interconnect Towers
Ash Hill Project

AECOM

P:_60536\60534139_ICT_Towers\900-CAD-GIS\Ash Hill\920 GIS\map_docs\mxd\JD_2019\ReportVeg_JD_MapC.mxd



Legend

- Project Location
- Access Road 25ft Buffer

Wetland Type

- Riverine
- National Hydrography Dataset

0 2,000 4,000 Feet

Base Map Source:
ESRI, ArcGIS Online
Bing Maps Hybrid

FIGURE 7
NATIONAL WETLAND INVENTORY AND NATIONAL HYDROGRAPHY DATASET

Interconnect Towers
Ash Hill Project

AECOM

P:\ 60531605341139 ICT Towers\900-CAD-GIS\Ash Hill\920 GIS\map docs\mxd\JD 2019\Report\NWI Wetlands.mxd
Created By: Amy Burgess Job No.60545193 Date: 2/27/2019

Appendix B

Mesa Data Sheets/Approved JD Forms

Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

To: District Name Here

Ash Hill JD Report Appendix B. Approved JD Form.

- I am requesting a JD on property located at: Ash Hill Project Area (Street Address)
  City/Township/Parish: Ludlow County: San Bernardino State: CA
  Acreage of Parcel/Review Area for JD: 5 acres within Study Area
  Section: 11 Township: 7N Range: 9E
  Latitude (decimal degrees): 34.716083 Longitude (decimal degrees): -116.022958
  (For linear projects, please include the center point of the proposed alignment.)
- Please attach a survey/plat map and vicinity map identifying location and review area for the JD.
- ☐ I currently own this property. ☐ I plan to purchase this property.
  ☑ I am an agent/consultant acting on behalf of the requestor.
  ☐ Other (please explain): _____.
- Reason for request: (check as many as applicable)
  ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
  ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
  ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
  ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
  ☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
  ☐ A Corps JD is required in order to obtain my local/state authorization.
  ☑ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
  ☐ I believe that the site may be comprised entirely of dry land.
  ☐ Other: _____
- Type of determination being requested:
  ☑ I am requesting an approved JD.
  ☐ I am requesting a preliminary JD.
  ☐ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
  ☐ I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

*Signature: Larsen, Erik Digitally signed by Larsen, Erik DN: cn=Larsen, Erik, ou=USORA1 Reason: I attest to the accuracy and integrity of this document Date: 2019.03.20 16:29:46 -07'00' Date: 20Mar2019

- Typed or printed name: Erik Larsen, D.Env.

Company name: AECOM Environment

Address: 999 Town & Country Road, 2nd Floor

Orange, CA 92868

Daytime phone no.: 714.648.2043

Email address: erik.larsen@aecom.com

***Authorities:** Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.
Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.
Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.
Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

Regulatory Program

INTERIM APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers
This form should be completed by following the instructions provided in the Interim Approved Jurisdictional Determination Form User Manual.

SECTION I: BACKGROUND INFORMATION

A. COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (AJD): TBD

B. ORM NUMBER IN APPROPRIATE FORMAT (e.g., HQ-2015-00001-SMJ): TBD

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State:CA County/parish/borough: San Bernardino City: Ludlow
Center coordinates of site (lat/long in degree decimal format): Lat. 34.716083, Long. -116.022958.
Map(s)/diagram(s) of review area (including map identifying single point of entry (SPOE) watershed and/or potential jurisdictional areas where applicable) is/are: ☒ attached ☐ in report/map titled .
☐ Other sites (e.g., offsite mitigation sites, disposal sites, etc.) are associated with this action and are recorded on a different jurisdictional determination (JD) form. List JD form ID numbers (e.g., HQ-2015-00001-SMJ-1): .

D. REVIEW PERFORMED FOR SITE EVALUATION:
☒ Office (Desk) Determination Only. Date: TBD.
☐ Office (Desk) and Field Determination. Office/Desk Dates: TBD Field Date(s): TBD.

SECTION II: DATA SOURCES

Check all that were used to aid in the determination and attach data/maps to this AJD form and/or references/citations in the administrative record, as appropriate.
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant. Title/Date: JD Report, Mar 2019.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☒ Data sheets/delineation report are sufficient for purposes of AJD form. Title/Date: JD Report, Mar 2019.
  ☐ Data sheets/delineation report are not sufficient for purposes of AJD form. Summarize rationale and include information on revised data sheets/delineation report that this AJD form has relied upon: .
  Revised Title/Date: .
☐ Data sheets prepared by the Corps. Title/Date: .
☐ Corps navigable waters study. Title/Date: .
☐ CorpsMap ORM map layers. Title/Date: .
☐ USGS Hydrologic Atlas. Title/Date: .
☒ USGS, NHD, or WBD data/maps. Title/Date: JD Report, Feb 2019.
☒ USGS 8, 10 and/or 12 digit HUC maps. HUC number: So. Mojave, Lower Mojave Desert (HUC8:18100100).
☒ USGS maps. Scale & quad name and date: USGS 7.5' Quads; Ash Hill, Siberia, CA.
☐ USDA NRCS Soil Survey. Citation: n/a.
☒ USFWS National Wetlands Inventory maps. Citation: JD Report, Mar 2019.
☐ State/Local wetland inventory maps. Citation: .
☐ FEMA/FIRM maps. Citation: .
☒ Photographs: ☒ Aerial. Citation: JD Report, Mar 2019. or ☐ Other. Citation: .
☐ LiDAR data/maps. Citation: .
☒ Previous JDs. File no. and date of JD letter: SPL-2016-00063-SLP (Dola Bridge Replacement Project) and SPL-2016-00566-DSP (I-40 Median Regrade and Recontour Project); Appendix B, JD Report, Mar 2019.
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .

☒ Other information (please specify): Figures 1 - 7 showing local and regional watersheds (see end of this document).

SECTION III: SUMMARY OF FINDINGS

Complete ORM "Aquatic Resource Upload Sheet" or Export and Print the Aquatic Resource Water Droplet Screen from ORM for All Waters and Features, Regardless of Jurisdictional Status – Required

A. RIVERS AND HARBORS ACT (RHA) SECTION 10 DETERMINATION OF JURISDICTION:

☐ "*navigable waters of the U.S.*" within RHA jurisdiction (as defined by 33 CFR part 329) in the review area.

- **Complete Table 1 - Required**

NOTE: If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Section 10 navigable waters list, DO NOT USE THIS FORM TO MAKE THE DETERMINATION. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Section 10 RHA navigability determination.

B. CLEAN WATER ACT (CWA) SECTION 404 DETERMINATION OF JURISDICTION: "*waters of the U.S.*" within CWA jurisdiction (as defined by 33 CFR part 328.3) in the review area. **Check all that apply.**

☐ (a)(1): All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide. (Traditional Navigable Waters (TNWs))

- **Complete Table 1 - Required**

☐ This AJD includes a case-specific (a)(1) TNW (Section 404 navigable-in-fact) determination on a water that has not previously been designated as such. Documentation required for this case-specific (a)(1) TNW determination is attached.

☐ (a)(2): All interstate waters, including interstate wetlands.

- **Complete Table 2 - Required**

☐ (a)(3): The territorial seas.

- **Complete Table 3 - Required**

☐ (a)(4): All impoundments of waters otherwise identified as waters of the U.S. under 33 CFR part 328.3.

- **Complete Table 4 - Required**

☐ (a)(5): All tributaries, as defined in 33 CFR part 328.3, of waters identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.

- **Complete Table 5 - Required**

☐ (a)(6): All waters adjacent to a water identified in paragraphs (a)(1)-(a)(5) of 33 CFR part 328.3, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters.

- **Complete Table 6 - Required**

☐ Bordering/Contiguous.

Neighboring:

☐ (c)(2)(i): All waters located within 100 feet of the ordinary high water mark (OHWM) of a water identified in paragraphs (a)(1)-(a)(5) of 33 CFR part 328.3.

☐ (c)(2)(ii): All waters located within the 100-year floodplain of a water identified in paragraphs (a)(1)-(a)(5) of 33 CFR part 328.3 and not more than 1,500 feet of the OHWM of such water.

☐ (c)(2)(iii): All waters located within 1,500 feet of the high tide line of a water identified in paragraphs (a)(1) or (a)(3) of 33 CFR part 328.3, and all waters within 1,500 feet of the OHWM of the Great Lakes.

☐ (a)(7): All waters identified in 33 CFR 328.3(a)(7)(i)-(v) where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.

- **Complete Table 7 for the significant nexus determination. Attach a map delineating the SPOE watershed boundary with (a)(7) waters identified in the similarly situated analysis. - Required**

☐ Includes water(s) that are geographically and physically adjacent per (a)(6), but are being used for established, normal farming, silviculture, and ranching activities (33 USC Section 1344(f)(1)) and therefore are not adjacent and require a case-specific significant nexus determination.

☐ (a)(8): All waters located within the 100-year floodplain of a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3 not covered by (c)(2)(ii) above and all waters located within 4,000 feet of the high tide line or OHWM of a water identified in paragraphs (a)(1)-(a)(5) of 33 CFR part 328.3 where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.

- **Complete Table 8 for the significant nexus determination. Attach a map delineating the SPOE watershed boundary with (a)(8) waters identified in the similarly situated analysis. - Required**

☐ Includes water(s) that are geographically and physically adjacent per (a)(6), but are being used for established, normal farming, silviculture, and ranching activities (33 USC Section 1344(f)(1)) and therefore are not adjacent and require a case-specific significant nexus determination.

C. NON-WATERS OF THE U.S. FINDINGS:

Check all that apply.

☐ The review area is comprised entirely of dry land.

☐ Potential-(a)(7) Waters: Waters that DO NOT have a significant nexus to a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.

- **Complete Table 9 and attach a map delineating the SPOE watershed boundary with potential (a)(7) waters identified in the similarly situated analysis. - Required**

☐ Includes water(s) that are geographically and physically adjacent per (a)(6), but are being used for established, normal farming, silviculture, and ranching activities (33 USC Section 1344(f)(1)) and therefore are not adjacent and require a case-specific significant nexus determination.

☐ Potential-(a)(8) Waters: Waters that DO NOT have a significant nexus to a water identified in paragraphs (a)(1)-(a)(3) of 33 CFR part 328.3.

- **Complete Table 9 and attach a map delineating the SPOE watershed boundary with potential (a)(8) waters identified in the similarly situated analysis. - Required**

☐ Includes water(s) that are geographically and physically adjacent per (a)(6), but are being used for established, normal farming, silviculture, and ranching activities (33 USC Section 1344(f)(1)) and therefore are not adjacent and require a case-specific significant nexus determination.

☐ Excluded Waters (Non-Waters of U.S.), even where they otherwise meet the terms of paragraphs (a)(4)-(a)(8):

- **Complete Table 10 - Required**

☐ (b)(1): Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA.

☐ (b)(2): Prior converted cropland.

☐ (b)(3)(i): Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.

☐ (b)(3)(ii): Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.

☐ (b)(3)(iii): Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (a)(1)-(a)(3).

☐ (b)(4)(i): Artificially irrigated areas that would revert to dry land should application of water to that area cease.

☐ (b)(4)(ii): Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds.

☐ (b)(4)(iii): Artificial reflecting pools or swimming pools created in dry land.[1]

☐ (b)(4)(iv): Small ornamental waters created in dry land.[1]

☐ (b)(4)(v): Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water.

☐ (b)(4)(vi): Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways.[1]

☐ (b)(4)(vii): Puddles.[1]

☐ (b)(5): Groundwater, including groundwater drained through subsurface drainage systems.[1]

☐ (b)(6): Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.[1]

☐ (b)(7): Wastewater recycling structures created in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

☒ Other non-jurisdictional waters/features within review area that do not meet the definitions in 33 CFR 328.3 of (a)(1)-(a)(8) waters and are not excluded waters identified in (b)(1)-(b)(7).

- **Complete Table 11 - Required.**

D. ADDITIONAL COMMENTS TO SUPPORT AJD: See Table 11 below.

[1] In many cases these excluded features will not be specifically identified on the AJD form, unless specifically requested. Corps Districts may, in case-by-case instances, choose to identify some or all of these features within the review area.

Jurisdictional Waters of the U.S.

Table 1. (a)(1) Traditional Navigable Waters n/a

(a)(1) Waters Name	(a)(1) Criteria	Rationale to Support (a)(1) Designation Include High Tide Line or Ordinary High Water Mark indicators, when applicable.
N/A	Choose an item.	N/A

Table 2. (a)(2) Interstate Waters n/a

(a)(2) Waters Name	Rationale to Support (a)(2) Designation
N/A	N/A

Table 3. (a)(3) Territorial Seas n/a

(a)(3) Waters Name	Rationale to Support (a)(3) Designation
N/A	N/A

Table 4. (a)(4) Impoundments n/a

(a)(4) Waters Name	Rationale to Support (a)(4) Designation
N/A	N/A
N/A	N/A

Table 5. (a)(5)Tributaries n/a

(a)(5) Waters Name	Flow Regime	(a)(1)-(a)(3) Water Name to which this (a)(5) Tributary Flows	Tributary Breaks	Rationale for (a)(5) Designation and Additional Discussion. Identify flowpath to (a)(1)-(a)(3) water or attach map identifying the flowpath; explain any breaks or flow through excluded/non-jurisdictional features, etc.
N/A	Choose an item.	N/A	Choose an item.	N/A
N/A	Choose an item.	N/A	Choose an item.	N/A
N/A	Choose an item.	N/A	Choose an item.	N/A
N/A	Choose an item.	N/A	Choose an item.	N/A

Table 6. (a)(6) Adjacent Waters n/a

(a)(6) Waters Name	(a)(1)-(a)(5) Water Name to which this Water is Adjacent	Rationale for (a)(6) Designation and Additional Discussion. Identify the type of water and how the limits of jurisdiction were established (e.g., wetland, 87 Manual/Regional Supplement); explain how the 100-year floodplain and/or the distance threshold was determined; whether this water extends beyond a threshold; explain if the water is part of a mosaic, etc.
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Table 7. (a)(7) Waters n/a

SPOE Name	(a)(7) Waters Name	(a)(1)-(a)(3) Water Name to which this Water has a Significant Nexus	Significant Nexus Determination Identify SPOE watershed; discuss whether any similarly situated waters were present and aggregated for SND; discuss data, provide analysis, and summarize how the waters have more than speculative or insubstantial effect on the physical, chemical, or biological integrity of the (a)(1)-(a)(3) water, etc.
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Table 8. (a)(8) Waters n/a

SPOE Name	(a)(8) Waters Name	(a)(1)-(a)(3) Water Name to which this Water has a Significant Nexus	Significant Nexus Determination Identify SPOE watershed; explain how 100-yr floodplain and/or the distance threshold was determined; discuss whether waters were determined to be similarly situated to subject water and aggregated for SND; discuss data, provide analysis, and then summarize how the waters have more than speculative or insubstantial effect the on the physical, chemical, or biological integrity of the (a)(1)-(a)(3) water, etc.
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Non-Jurisdictional Waters

Table 9. Non-Waters/No Significant Nexus n/a

SPOE Name	Non-(a)(7)/(a)(8) Waters Name	(a)(1)-(a)(3) Water Name to which this Water DOES NOT have a Significant Nexus	Basis for Determination that the Functions DO NOT Contribute Significantly to the Chemical, Physical, or Biological Integrity of the (a)(1)-(a)(3) Water. Identify SPOE watershed; explain how 100-yr floodplain and/or the distance threshold was determined; discuss whether waters were determined to be similarly situated to the subject water; discuss data, provide analysis, and summarize how the waters did not have more than a speculative or insubstantial effect on the physical, chemical, or biological integrity of the (a)(1)-(a)(3) water.
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Table 10. Non-Waters/Excluded Waters and Features n/a

Paragraph (b) Excluded Feature/Water Name	Rationale for Paragraph (b) Excluded Feature/Water and Additional Discussion.
N/A	N/A
N/A	N/A

Table 11. Non-Waters/Other

Other Non-Waters of U.S. Feature/Water Name	Rationale for Non-Waters of U.S. Feature/Water and Additional Discussion.
ASH HILL PROJECT AREA **Washes 1 – 11, including Bristol Mountains Wash (Wash No. 3 North and 3 South).**	See text below, as well as JD Report (AECOM 2019). **SUMMARY:** Based on the information presnted in the JD Report (AECOM 2019), the Corps concludes The Ash Hill Project Drainages are NON-WATERS of the United States, since the waters are NOT tributary to (a)(1), (a) 3, and (a)(4) waters and are not (a)(1)-(a)(8) waters themselves. The Corps makes such a conclusion since the intrastate, ephemeral waters are ultimately tributary to a geographically isolated, dry lake, with both waters lacking any associated surface water based commerce. Although Bristol Mountains Wash flows to Bagdad Dry Lake first, the discussion below includes both Bagdad Dry Lake and Bristol Dry Lake (thus, "Bagdad/Bristol Dry Lake"). *Continued below*.

Based on the results of the JD Report (AECOM 2019), this AJD was prepared to provide support to USACE in making a formal determination of all waters delineated within the project survey area that are geographically isolated waters (and/or not meeting the federal definition of waters [e.g., swales]) and, thus, not regulated by USACE for the following reasons 1 - 5, below.

1. There are two previous Approved JDs issued by USACE for geographic isolation of **Bagdad/Bristol Dry Lake** (e.g., a nonfederal jurisdictional water [that were delineated using federal protocol, manuals, and guidance]). This Approved JD is based, in part, on these previous two Approved JDs that were conducted for USACE file Nos. **SPL-2016-00063-SLP (Dola Bridge Replacement Project) and SPL-2016-00566-DSP (I-40 Median Regrade and Recontour Project)**. Below is applicable text from these two AJDs.

SPL-2016-00063-SLP (Dola Bridge Replacement Project)

> The Dola drainage is a 0.19 acre intrastate, ephemeral (non-RPW) watercourse located within the Bristol Lake watershed. The Bristol Lake Watershed is situated within the closed basin of the Southern Mojave Watershed. Bristol Lake and its non-RPW tributaries, including the Dola drainage, function as an isolated intrastate system, which lacks the presence of a TNW. Moreover, Bristol Lake and all tributaries to Bristol Lake are NOT (a)(3) waters as defined by 33 CFR 328.3, as they do NOT meet criteria (a)(3)(iii), since surface waters are NOT used for industrial or other commercial purposes by interstate commerce industries.
>
> Bristol Lake, the central terminus point for surface waters within the Bristol Lake Watershed, is situated within California, San Bernardino County, immediately southeast of Amboy. Its shallow depth ranges 585-feet to 610-feet in elevation. The Lake covers an area exceeding 41,578-acres, with an approximate width of 7.1-miles and length of 10.7-miles. Bristol Lake is surrounded by the Bullions Mountains to the west, the Bristol/Granite/Marble/Old Dad Mountains to the north, the Marble/Calumet/Ship Mountains to the east, and the Sheep Hole/Calumet/Coxcomb Mountains to the south. The overall Bristol Lake Watershed occupies an area of approximately 377,760 acres and is primarily uninhabited.
>
> The surface waters within the Bristol Valley groundwater basin, including Dola drainage, flow to Bristol dry lake, the central elevational low point of the Bristol Lake Watershed. Bristol Lake is situated immediately south of major east-west transportation corridors, including the interstate roadway, I-40, a BNSF main rail line and National Trails Highway (Route 66). A rail spur from this east-west main rail line even extends slightly south, from Saltus to the northern tip of Bristol Lake. Typical rainfall average in this area ranges 3- to 5-inches. The groundwater level is near the surface of Bristol Lake, and temporary ponding has occurred in the Lake even in low rainfall years. Prior approved jurisdictional determinations have been made for specific non-RPW tributaries to Bristol dry lake. Currently, there are no published commercial uses of the Dola drainage, and the review of aerial photographs (Google Earth) also did not depict surface water usage of the Dola drainage. Therefore, the Dola drainage tributary to Bristol Lake is NOT an (a)(3) water as defined by 33 CFR 328.3 (a)(3)(i-iii).

	Bristol Lake, as the terminus for all waters within the Bristol Lake Watershed, is NOT a TNW. Moreover, Bristol Lake is NOT an (a)(3) water as defined by 33 CFR 328.3. Bristol dry lake does NOT meet criteria (a)(3)(i-iii), as it: i) DOES NOT have use for surface water recreation or other purposes by foreign or interstate travelers, ii) DOES NOT have harvesting activities of fish or shellfish that may be sold in interstate or foreign commerce, and iii) DOES NOT have surface water industrial usage by industries in interstate commerce. Mining and processing activities for calcium chloride (salt) have taken place in Bristol Lake since approximately 1909. Bristol Lake is also one of very few areas in California that naturally contains a large percentage of calcium chloride as salt. However, these salt mining industries on the lake do NOT utilize the lake surface waters. Furthermore, there are no published uses of Bristol Lake surface waters. The above is based upon: the San Bernardino County JD Request (dated December 30, 2015, prepared by SB County); the Supplemental Data Delineation of Jurisdictional Waters and Wetlands for Bristol Dry Lake and Its Tributaries (dated July 2, 2009, prepared by Michael Brandman Associates), the California Groundwater Bulletin 118: Bristol Valley Groundwater Basin (last updated February 27, 2004), the review of aerial photographs (Google Earth) that also did not show surface water usage of any tributaries to Bristol Lake or the dry lake terminus itself, and prior approved jurisdictional determinations within the same watershed (see specific JD information listed in Section IV). Therefore, since Bristol Lake is an intrastate isolated water without a surface water connection to commerce, all tributaries to Bristol Lake as part of the overall watershed system are also isolated and additionally have no nexus to commerce. Thus, the Bristol Lake Watershed is an isolated watershed system that has no surface water connection to commerce. Based on the information above, the Corps concludes that Dola drainage is a NONJURISDICTIONAL water of the United States, since the water is NOT tributary to either a TNW or an (a)(3) water and is NOT an (a)(3) water itself. The Corps makes such a conclusion since the water is tributary to an isolated, intrastate dry lake. **SPL-2016-00566-DSP (I-40 Median Regrade and Recontour Project** Unnamed Dry Lake is situated within the closed basin of the Southern Mojave Watershed in San Bernardino, California, immediately southeast of Bagdad. Its shallow depth ranges 610 feet to 620 feet in elevation, covering an area in excess of 2,600-acres, with an approximate width of 2 miles and length of 2.4 miles. Dry Lake is situated immediately south of major east-west transportation corridors including Interstate 40 (I-40), a BNSF main rail line, and National Trails Highway (Route 66). Typical rainfall average in this area ranges from 3 to 5 inches. The groundwater level is near the surface of Dry Lake. Currently, there are no published commercial uses of surface waters of the tributaries in the Project area to Dry Lake, and the review of aerial photography (Google Earth) did not depict surface water usage of said tributaries to Dry Lake. Dry Lake and its non-RPW tributaries within the Project site function as an isolated intrastate system, which lacks the presence of a TNW. Moreover, Unnamed Dry Lake and the tributaries to Dry Lake within the Project area are NOT (a)(3) waters as defined by 33 CFR 328.3, as they do NOT meet criteria (a)(3)(i-iii) and since waters are NOT used for industrial or other commercial purposes by interstate commerce or industry.

The above is based upon Jurisdictional Waters Delineation Request SPL-2012-00136-SLP, and the review of aerial photographs (Google Earth), neither of which identified surface water usage of any tributary to Dry Lake or of the dry lake terminus itself. Therefore, since Dry Lake is an intrastate isolated water without a surface water connection to commerce, tributaries to Dry Lake within the Project are also isolated. Current conditions are consistent with the original determination and determinations since then.

Based on the information above, the Corps concludes that tributaries to Dry Lake within the Project area are NONJURISDICTIONAL waters of the United States, since the waters are NOT tributary to either a TNW or a (a)(3) water and are NOT (a)(3) waters themselves.

2. Abatement into the landscape and the lack of hydrological connectivity of the ephemeral wash(es) (non-Relatively Permanent Waterway [non-RPW]) into an RPW that flows directly or indirectly into a TNW, and the lack of hydrological connectivity of the ephemeral washes into an RPW connected by storm drains or culverts. The ephemeral washes and swales within the project survey area originating within the Bristol Mountains Range flow in a southerly orientation and create a confluence with other ephemeral washes, which eventually drain into **Bagdad/Bristol Dry Lake** (an isolated playa lake system) approximately 12 miles southeast of the project survey area (JD Report, Appendix A, Figures; Appendix B).

3**. Bagdad/Bristol Dry Lake**, as the terminus for all ephemeral waters within the project survey area, is not a TNW. **Bagdad/Bristol Dry Lake** is not an "(a)(3) water" as defined by 33 CFR 328.3. **Bagdad/Bristol Dry Lake** does not meet criteria (a)(3)(i–iii), as it does not have use for surface water recreation or other purposes by foreign or interstate travelers, does not have harvesting activities of fish or shellfish that may be sold in interstate or foreign commerce, and does not have surface water industrial usage by industries in interstate commerce.

4. **Bagdad/Bristol Dry Lake** is not considered an interstate isolated water (33 CFR 328.3 [a][2]), with all of its area falling within California.

5. All tributaries **to Bagdad/Bristol Dry Lake** as part of the overall watershed system are also isolated and additionally have no nexus to commerce. Thus, the So. Mojave, Lower Mojave Desert (HUC8:18100100) Watershed is an isolated watershed system that has no surface water connection to commerce. Based on the information above, USACE concludes that all tributaries to Bagdad/Bristol Lake are nonjurisdictional waters of the U.S., since the waters are NOT tributary to either a TNW or an (a)(3) water, and are not (a)(3) waters themselves.

*Continued below, with **Figures 1 through 7**.*

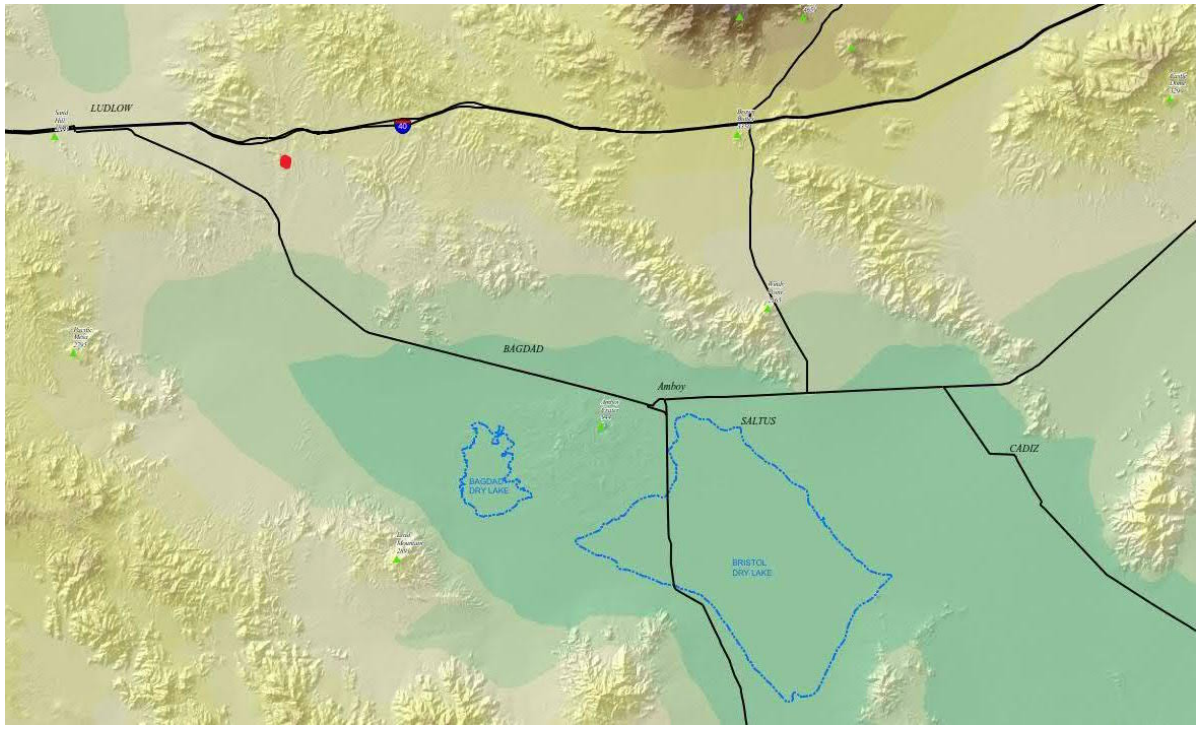


Figure 1. Shaded relief map of Ash Hill Project Area (red dot) and downstream Bagdad Dry Lake and Bristol Dry Lake. San Bernardino County Map view.

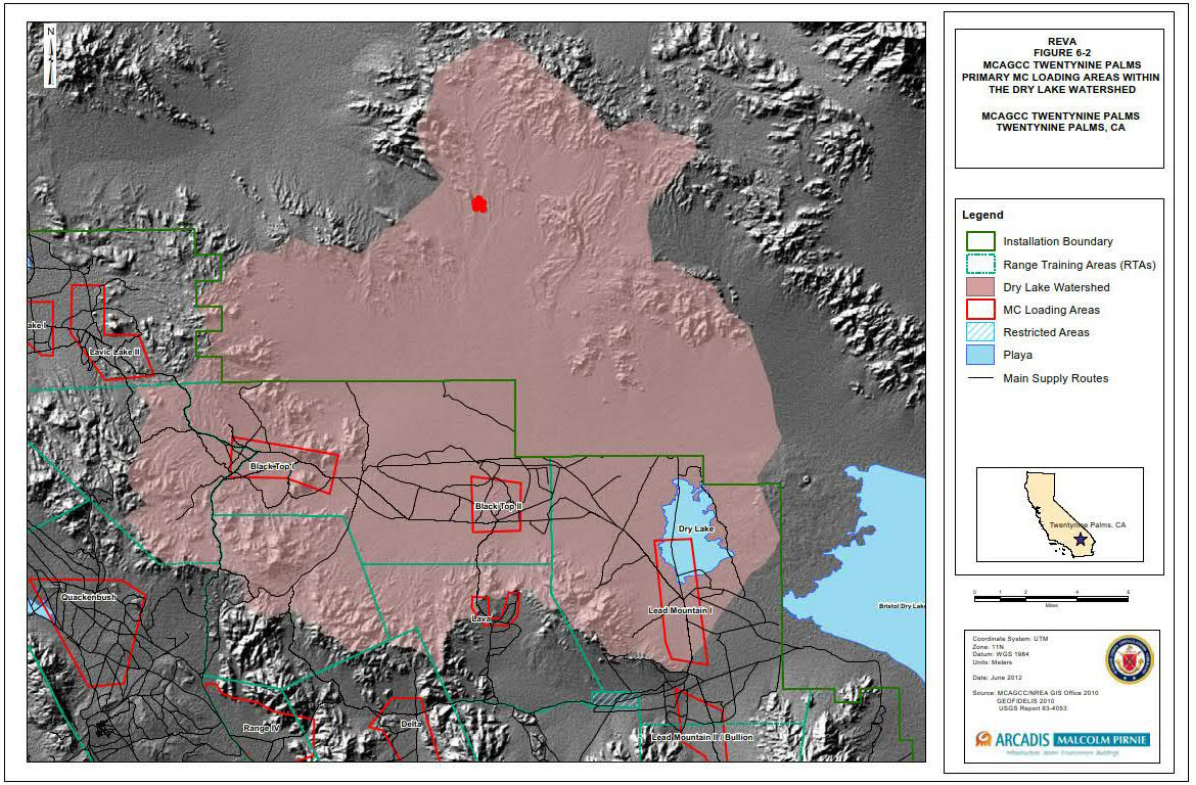


Figure 2. Dry Lake watershed map (lower). Red dot indicates project location.
Figure from a 2012 MCAGCC Twentynine Palms Document.

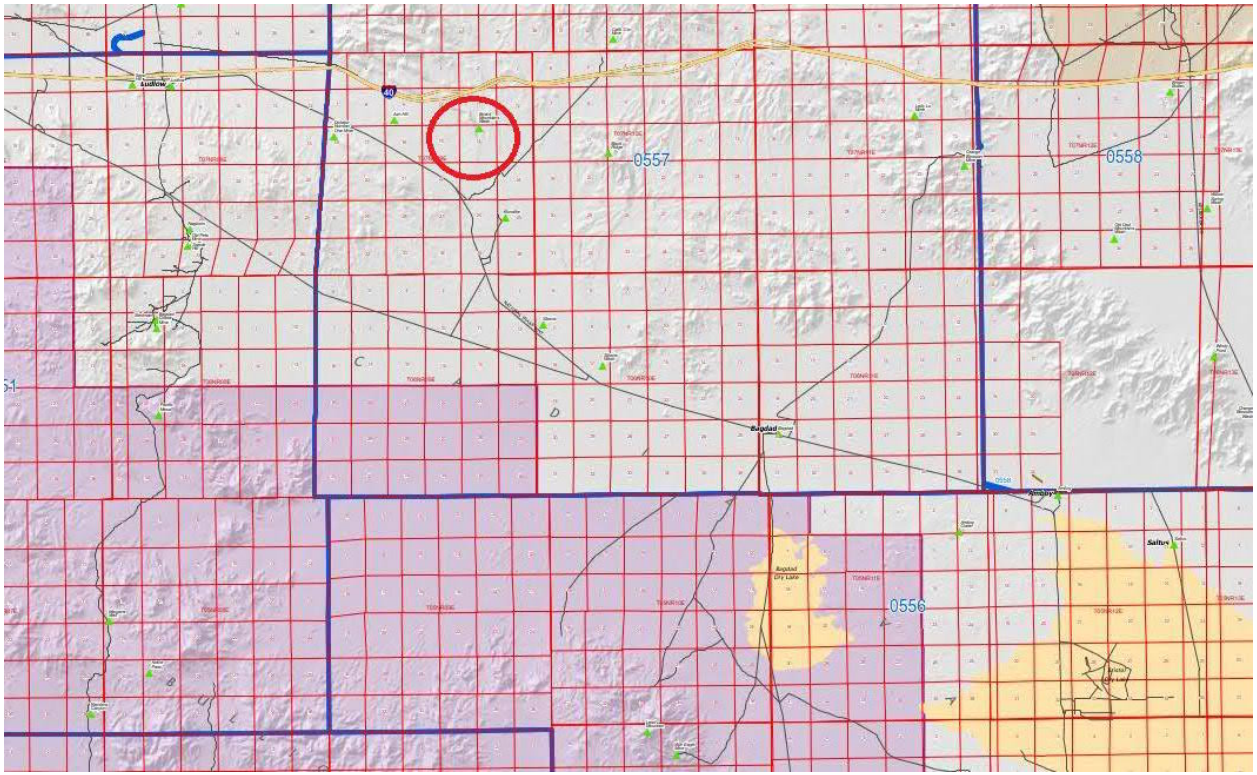


Figure 3a. San Bernardino County Map view, showing Bristol Mountains Wash, within red circle (which indicates project location).

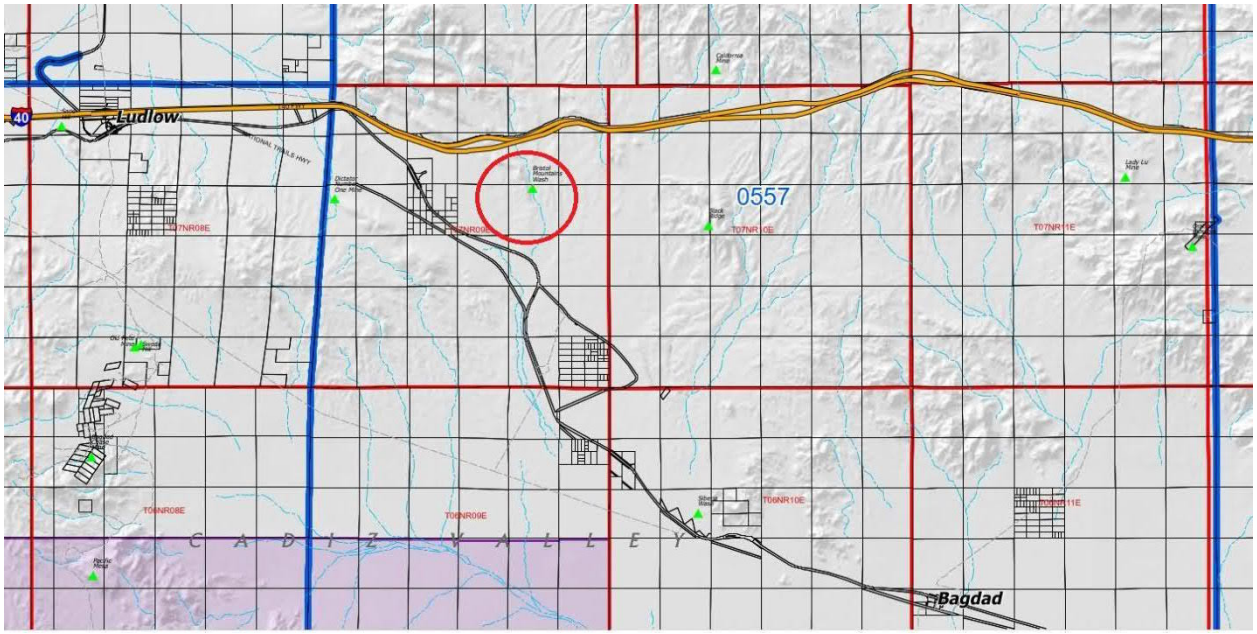


Figure 3b. San Bernardino County Map views, showing Bristol Mountains Wash, within red circle (which indicates project location).

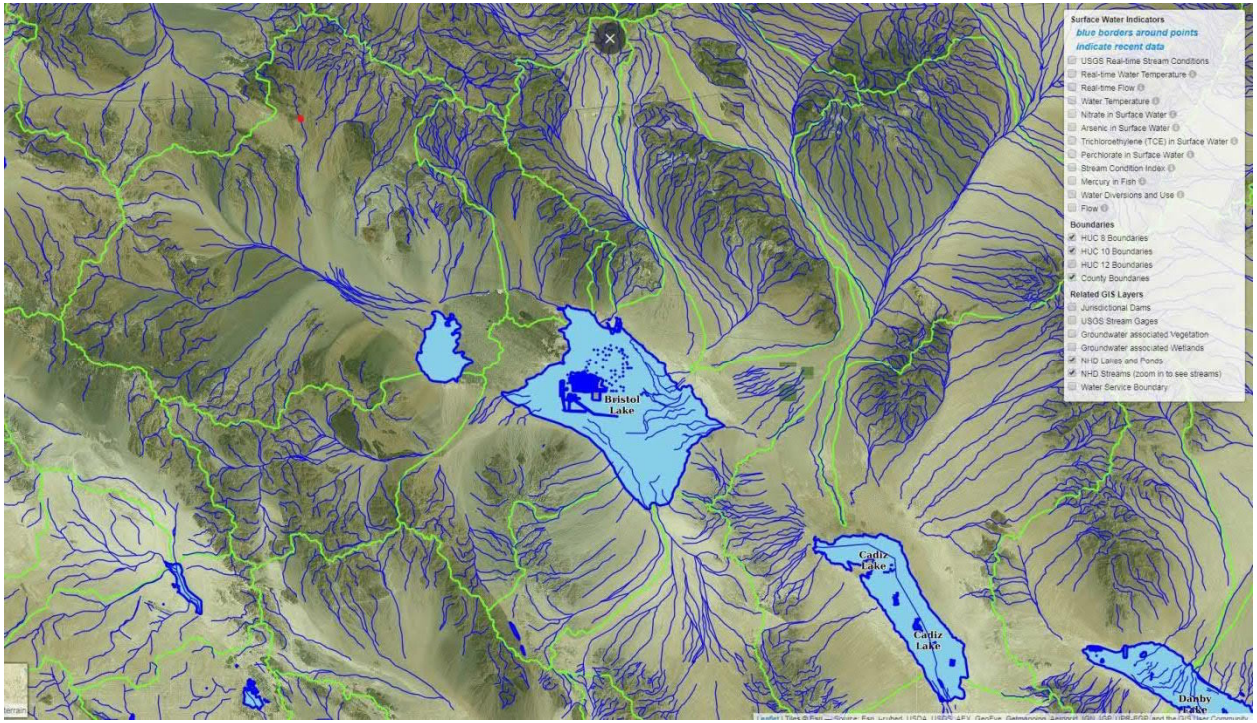


Figure 4a. HUC 10 boundaries. Red dot indicates project location.

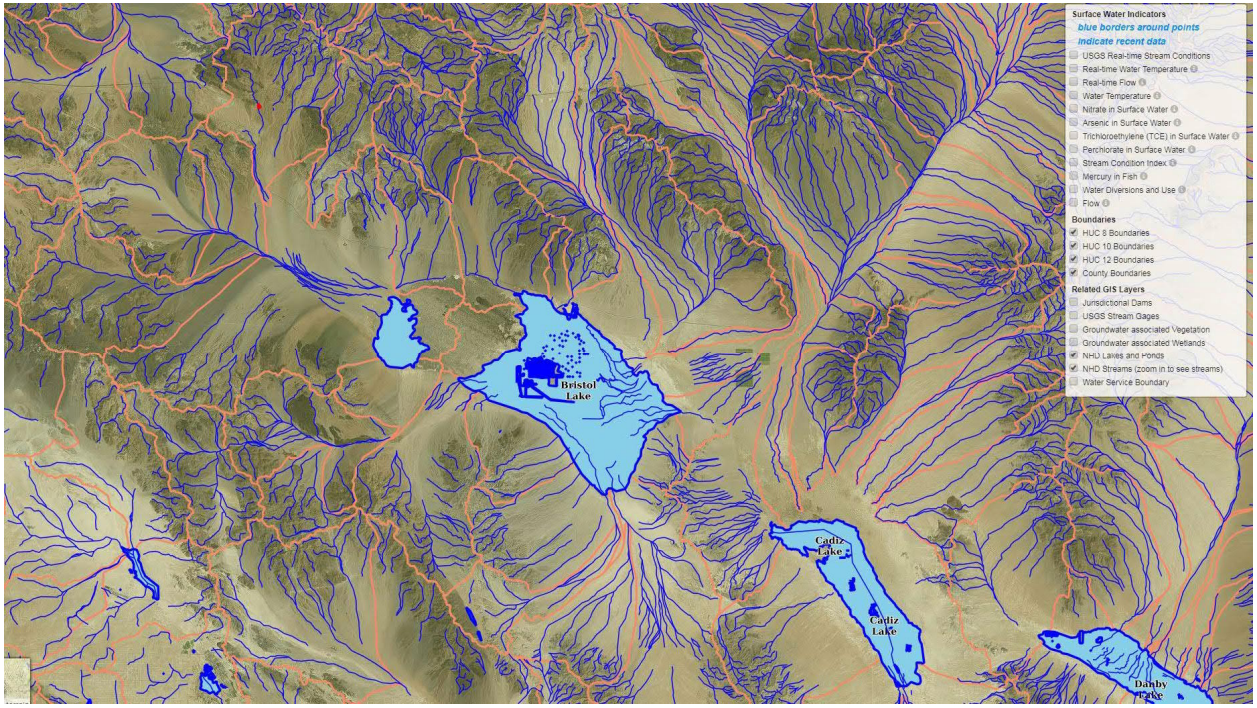


Figure 4b. HUC 12 boundaries. Red dot indicates project location.

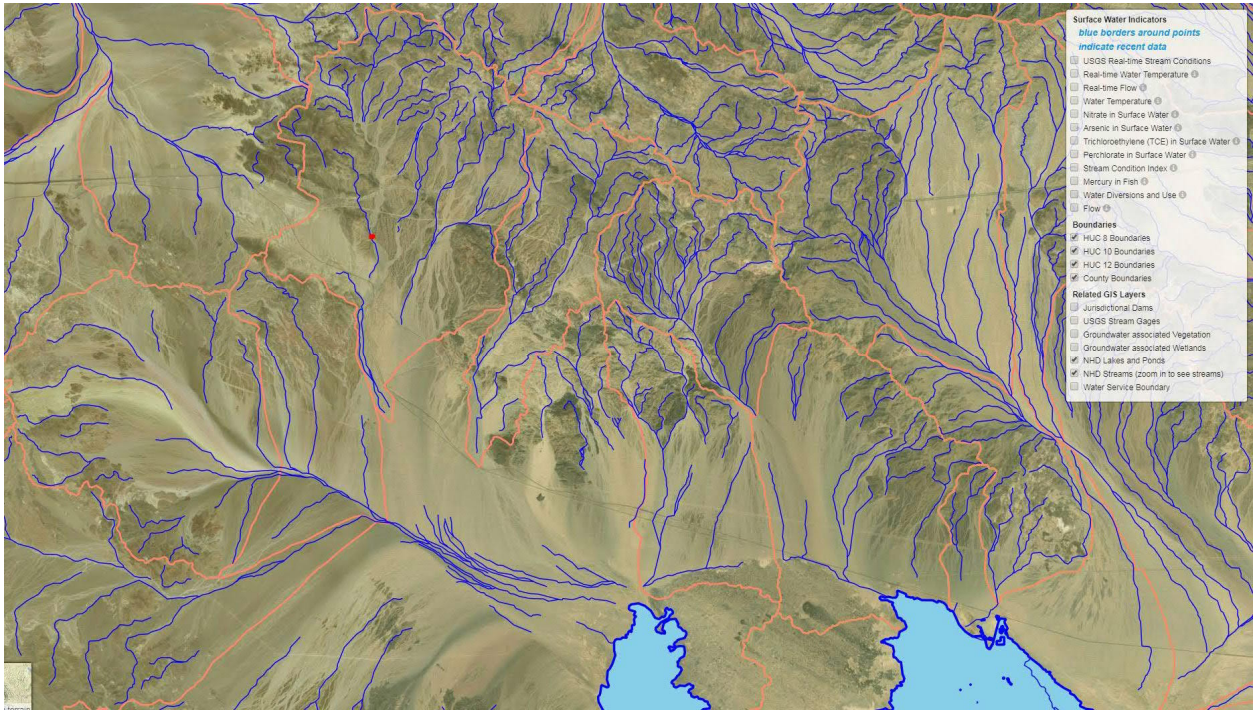


Figure 4c. HUC 12 boundaries. Red dot indicates project location. The desert dry lakes towards bottom view are Bagdad Dry Lake (left) and Bristol Dry Lake (right).

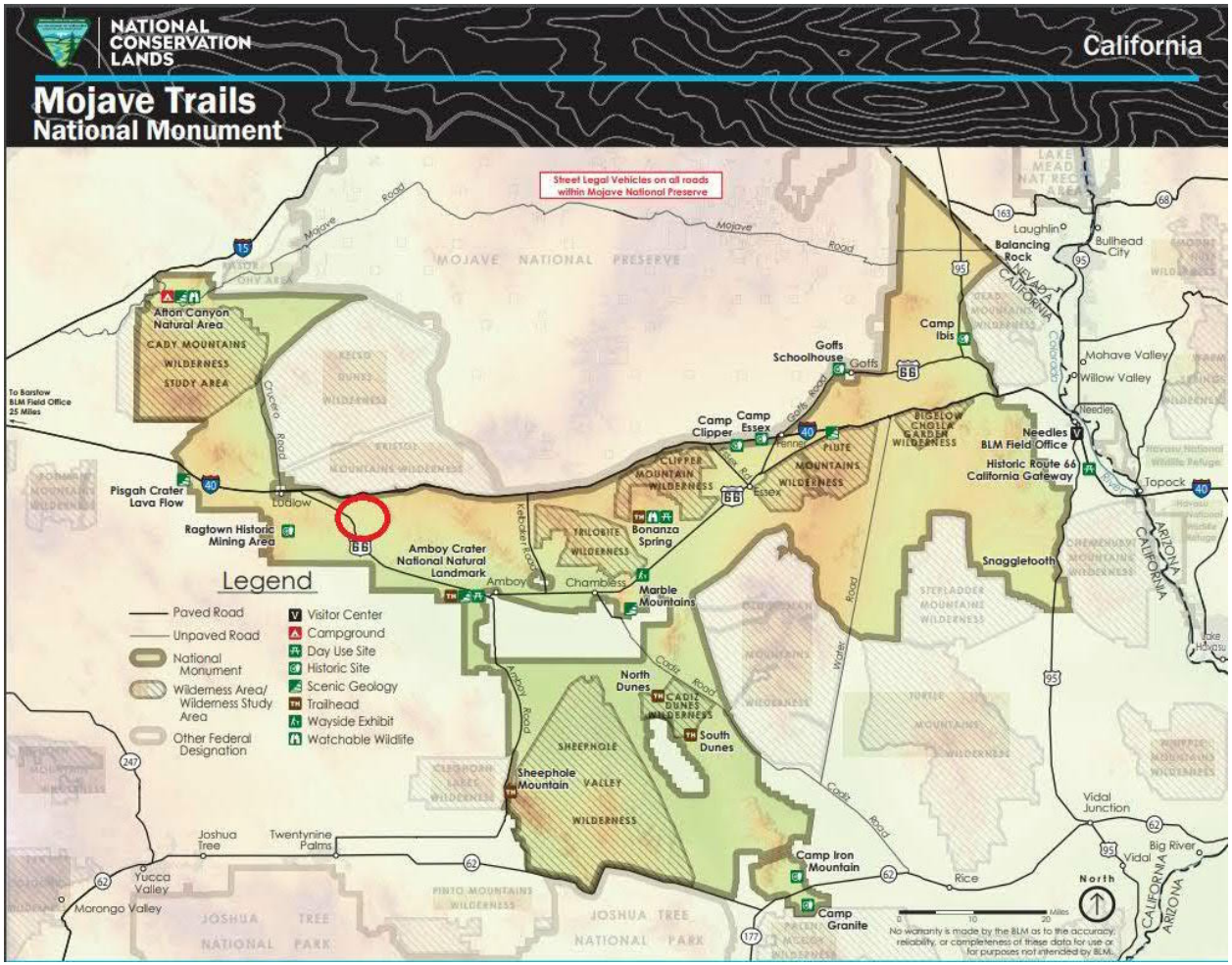


Figure 5. Project Location within BLM land. Red circle indicates the project area.

North of Project Area, and north of I-40: Bristol Mountains Wilderness – BLM. https://www.blm.gov/visit/bristol-mountains-wilderness

Surrounding Project Area, and south of I-40: Mojave Trails National Monument – BLM. https://www.blm.gov/programs/national-conservation-lands/california/mojave-trails-national-monument; https://www.blm.gov/visit/mojave-trails

Southeast of Project Area: Amboy Crater National Natural Landmark – BLM. https://www.blm.gov/visit/search-details/14854/2

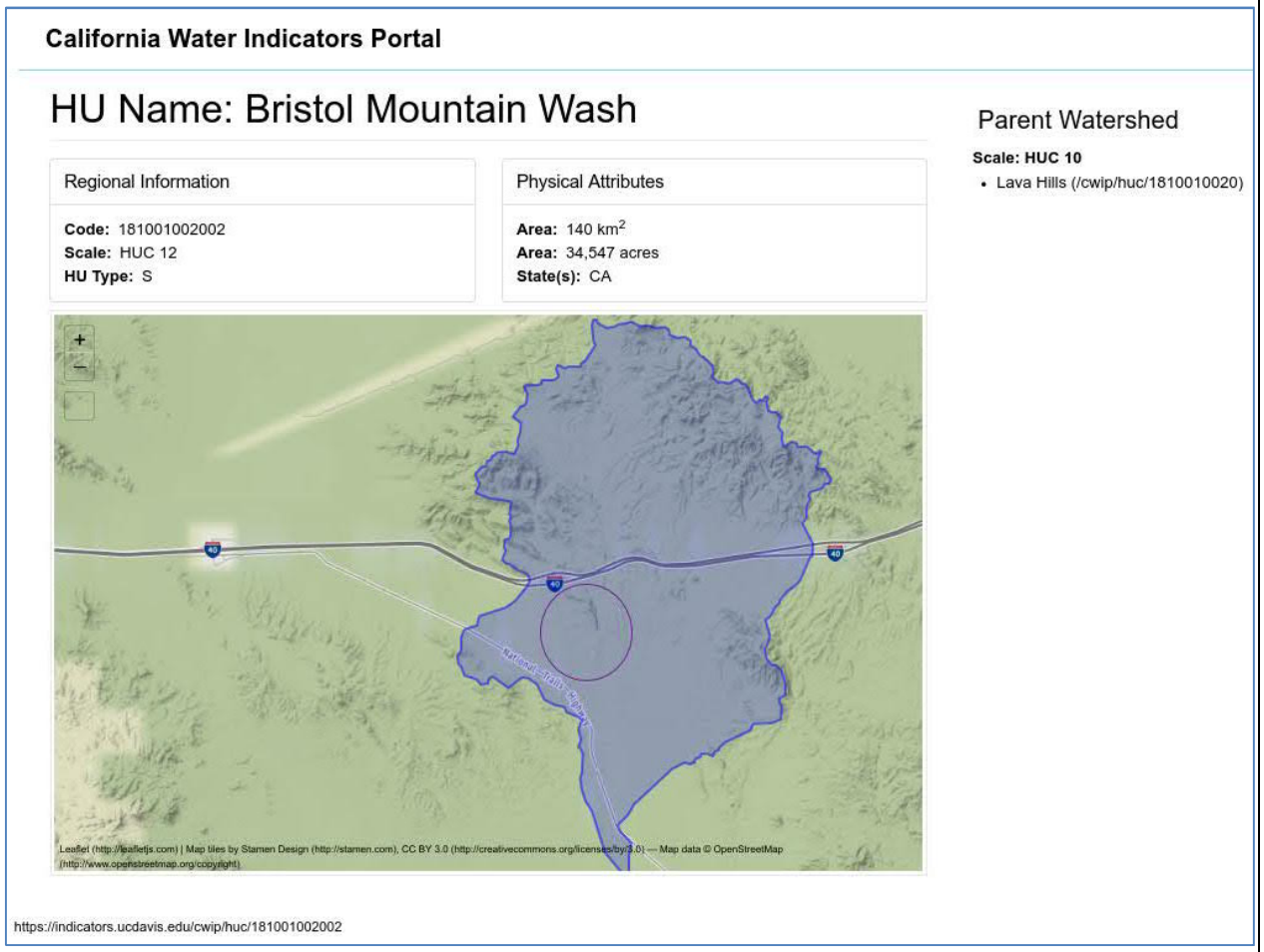


Figure 6. HUC 12: 181001002002, Bristol Mountain Wash; HUC 10: 1810010020, Lava Hills; HUC 08: 18100100, Southern Mojave. Purple circle indicates the project area.

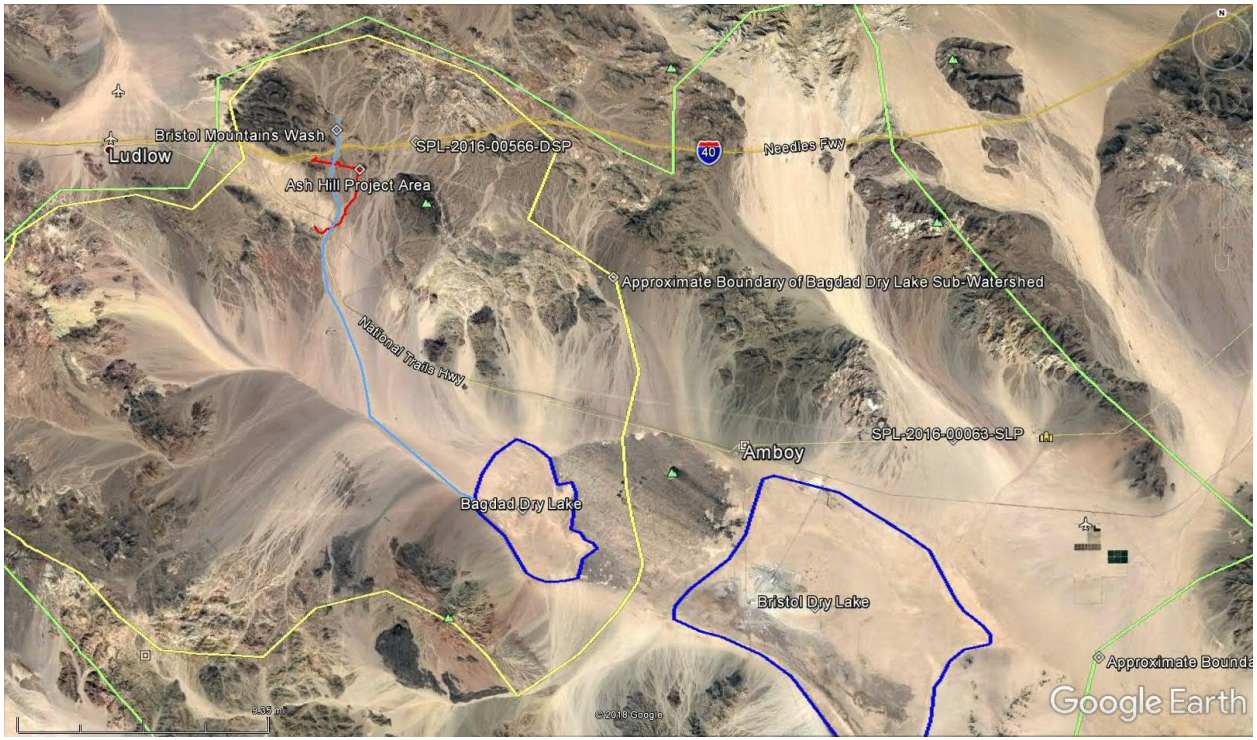
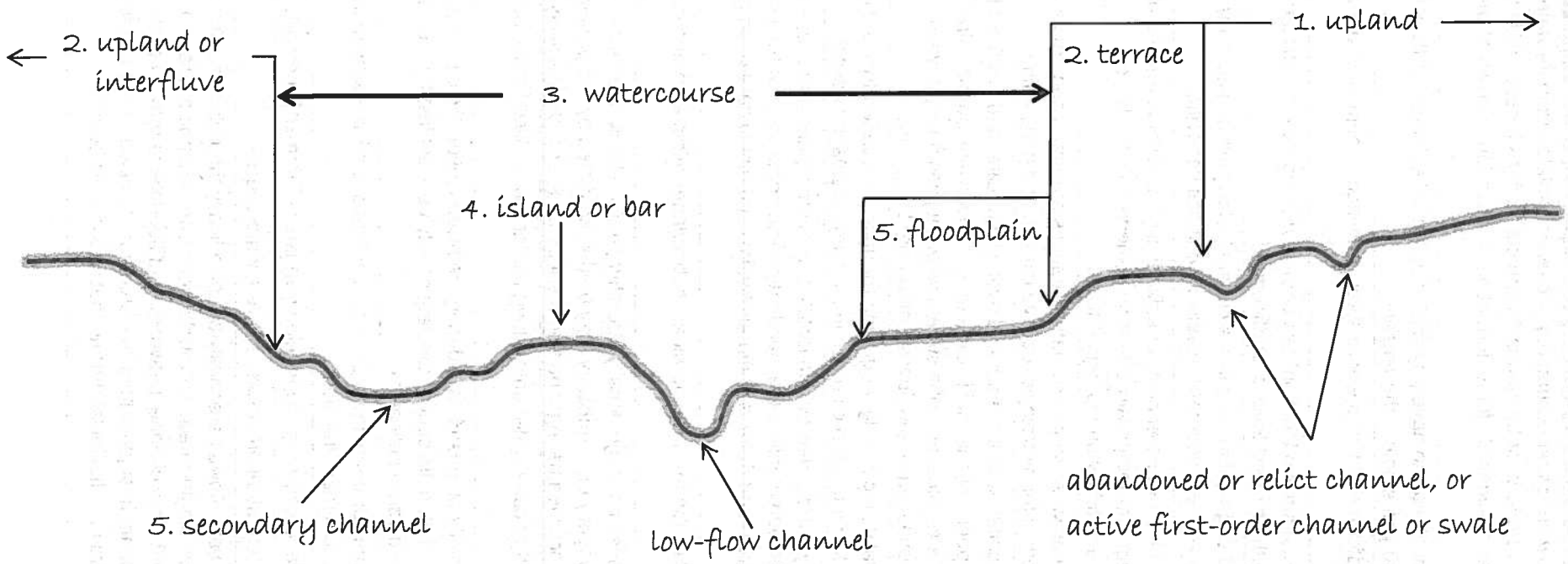


Figure 7. Location of nearby Approved JDs: SPL-2016-00566-DSP (Bagdad Dry Lake); SPL-2016-00063-SLP (Bristol Dry Lake). Dark blue lines outline the dry lakes, and light blue line traces theoretical down-gradient path of water from project area (red line) to dry lakes.

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
Wash 1	CALIFORNIA	R6	RIVERINE	Area	0.096	ACRE	ISOLATE	34.71384500	-116.01973800	Bagdad/Bristol Dry Lake
Wash 2	CALIFORNIA	R6	RIVERINE	Area	0.035	ACRE	ISOLATE	34.71310300	-116.01545600	Bagdad/Bristol Dry Lake
Wash 3 - North - Bristol Mountains Wash	CALIFORNIA	R6	RIVERINE	Area	1.2	ACRE	ISOLATE	34.71249900	-116.01164500	Bagdad/Bristol Dry Lake
Wash 3 - South - Bristol Mountains Wash	CALIFORNIA	R6	RIVERINE	Area	2.487	ACRE	ISOLATE	34.67856	-116.012925	Bagdad/Bristol Dry Lake
Wash 4	CALIFORNIA	R6	RIVERINE	Area	0.022	ACRE	ISOLATE	34.71143100	-116.00543100	Bagdad/Bristol Dry Lake
Wash 5	CALIFORNIA	R6	RIVERINE	Area	0.016	ACRE	ISOLATE	34.71082500	-116.00198100	Bagdad/Bristol Dry Lake
Wash 6	CALIFORNIA	R6	RIVERINE	Area	0.029	ACRE	ISOLATE	34.71072200	-116.00119100	Bagdad/Bristol Dry Lake
Wash 7	CALIFORNIA	R6	RIVERINE	Area	0.028	ACRE	ISOLATE	34.71041400	-115.99943600	Bagdad/Bristol Dry Lake
Wash 8 - West	CALIFORNIA	R6	RIVERINE	Area	0.646	ACRE	ISOLATE	34.71021800	-115.99802500	Bagdad/Bristol Dry Lake
Wash 8 - East	CALIFORNIA	R6	RIVERINE	Area	0.341	ACRE	ISOLATE	34.70970200	-115.99515400	Bagdad/Bristol Dry Lake
Wash 9	CALIFORNIA	R6	RIVERINE	Area	0.024	ACRE	ISOLATE	34.68639800	-116.00474900	Bagdad/Bristol Dry Lake
Wash 10	CALIFORNIA	R6	RIVERINE	Area	0.009	ACRE	ISOLATE	34.68542500	-116.00501000	Bagdad/Bristol Dry Lake
Wash 11	CALIFORNIA	R6	RIVERINE	Area	0.078	ACRE	ISOLATE	34.67570900	-116.01918000	Bagdad/Bristol Dry Lake

Representative Watercourse Cross Section with Associated Geomorphic Units



Guidance on Defining Watercourse Boundaries

1. **Uplands:** although dominated by terrestrial processes, uplands commonly include drainage swales and first- and sometimes higher-order streams. Document the presence and fluvial activity of these with a separate longitudinal survey using both the Watercourse and Upland indicators section of the Data Sheet.
2. **Terraces and interfluves:** are upland landforms. If the differences between terrace or interfluve and upland surface indicators are nominal and terrestrial indicators dominate, include their indicators on the Upland Indicators section of the Data Sheet. If the surfaces of terraces or interfluves have indicators of fluvial activity, reconsider the landform interpretation as floodplain within the watercourse boundaries, and include these indicators on the Watercourse Indicators section of the Data Sheet. If the surfaces or the percent cover and vigor of the vegetation on the terraces or interfluves notably differ from those on the adjacent upland, describe these differences in the notes to the vegetation sections of the Data Sheet.
3. **Watercourse:** includes all functionally related swales, single-thread channels, compound channels, braided channels, discontinuous and distributary channel networks, islands, and floodplains.
4. **Islands:** these bodies of land and the unique habitat they provide are defined and often formed by the water that surrounds and interacts with them. They are part of the watercourse unless their landscapes and ecosystem characteristics differ from those of the watercourse, and there is minimal physical or biological exchange between them and the stream. Document differences in surface indicators or vegetation on the Upland Indicators section of the Data Sheet and in explanatory notes.
5. **Floodplains and secondary channels:** lie within the bounds of a watercourse, and are essential to stream and ecosystem function. Include their indicators with those of the Watercourse Indicators section of the Data Sheet.

Annotated Definitions of Stream and Terrestrial Landforms	
Abandoned channel	a channel along which stream flow no longer occurs; e.g. a channel isolated from its water source through faulting or stream capture, or by human constructs such as levees. With time and the absence of the processes responsible for its formation an abandoned channel will become relict.
Active channel	a channel receiving frequent enough flow to have physical or biological evidence of fluvial activity roughly within the last 200 years before the present.
Alluvial fan	a gently sloping, fan-shaped landform that forms where steep, confined, mountain streams flow out onto a plain or valley.
Bank	the land on the outermost edge of a stream that confines or otherwise defines the stream's boundary when its waters rise to the highest level of confinement.
Bar	a ridge-like accumulation of sand or gravel formed in the channel, along the banks, at the mouth, or within the channel of a stream where a decrease in velocity induces deposition.
Channel	a defined course along which water flows perennially or episodically. Channels may be active during every runoff event or spatially or temporally dormant elements within a larger watercourse that receive water periodically during higher flows.
Dormant channel	a channel isolated from its principal water source by natural causes or human constructs such as roads, but that retains its potential for hydrologic reactivation and stream function.
Floodplain	a relatively flat area of land associated with a stream and over which water and soil from the parent stream flows when the capacity of channel is exceeded. Floodplains parallel stream channels by may also occur at the terminal end of a stream where it joins a larger wash, transitions into a playa, or the channel ends and flow subsides into the ground.
Interfluve	a relatively undissected and fluvially inactive higher ground (or upland) between two adjacent stream channels that flow in the same general direction in the same drainage network.
Island	elevated body of land periodically surrounded by and isolated from the upland landscape by water. Islands are part of a watercourse unless their landscape and ecosystem characteristics differ from those of the watercourse, and there is minimal physical and biological exchange between the two.
Low-flow channel	the topographically lowest stream channel or the dominant subchannel within a compound channel watercourse.
Relict channel	an "old" channel made by processes no longer locally operative; e.g. a stream that once drained a lake that is now permanently dry. Antiquity may be demonstrated by the presence of rock varnish, soil development, rock weathering, and the absence of recent fluvial activity.
Secondary channel	topographically higher channels that carry water only during higher flows. Also known as overflow or high flow channels.
Stream	a body of water that flows perennially or episodically during the historic hydrologic regime (ca. 1800 to present), and where the width of its course can reasonably be identified by resultant landforms or other physical and biological indicators.
Swale	a depression where runoff from the surrounding uplands concentrates to initiate stream flow; source areas considered Integral to stream function.
Terrace	planar surfaces representing infrequently or rarely flooded remnants of former floodplain.
Upland	the higher ground dominated by terrestrial processes above a watercourse.
Watercourse	the area within and along which water flows perennially or episodically through one or more channels. Where present, swales, single-thread channels, compound channels, braided channels, discontinuous and distributary channel networks, and floodplains may all occur within the bounds of a single larger channel designated the "watercourse" to discriminate between it and functionally related but subordinate fluvial landforms that lie within its bounds.

Episodic Stream Indicator Data Sheet			page 1 of 4
Site ID: Ash Hill	Stream ID:		Date: 1/31/19
Nearest Town:		County:	
Investigators: John Parent			

Base Map

Aerial Photo #:	Date: ~~1/31/19~~	Topographic Map Name:	Date:

GPS Data

GPS Name:	Datum:	Transect Elevation:	Zone 10 / 11	GPS Error: ± ft / m
GPS co-ords start of transect:		GPS co-ords end of transect:		

Geomorphic Province (✓one)		Mojave		Sonoran/Colorado		Great Basin	Other:

Landform (✓ all that apply)

	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa

Channel Form (✓ one)

	Single thread		Braided		Compound		Distributary		Discontinuous	Other:

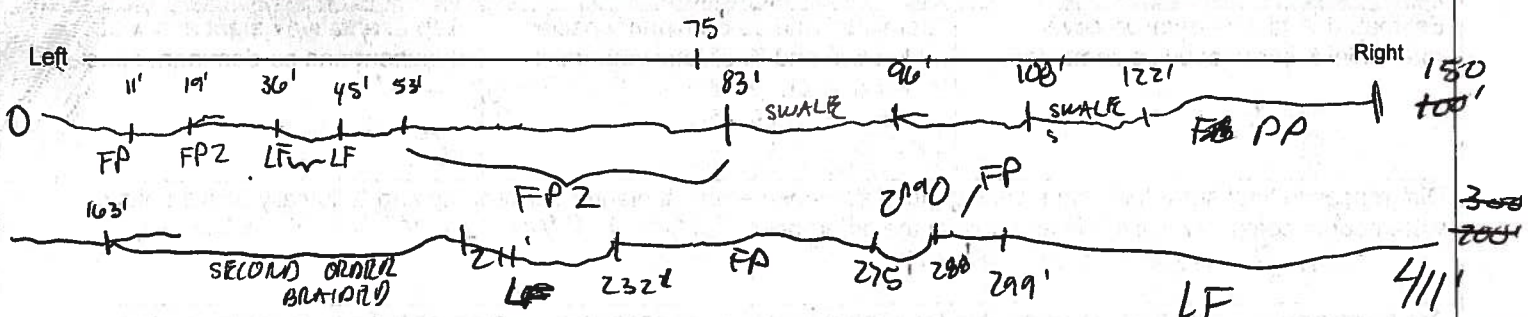
Transect was selected to:

✓	Document fluvial activity & boundaries		Document channel elevations & boundaries
	Document habitat associations		Document a change in watercourse morphology
	Other:		

Date of most recent runoff event (if known):

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function: UNPAVED ROAD, BERMED ON BOTH SIDES, BISECTING CHANNEL. STREAM OCCUPIES WIDTH OF VALLEY BOTTOM, IS SURROUNDED BY DESERT PAVEMENT, FEW ROLLING HILLS. GRADUAL ELEVATIONAL GRADIENT FROM EAST TO WEST ACROSS VALLEY BOTTOM.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.



Site ID:	Stream ID:	page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

–	Av soil horizon	+	Relict bars & swales
–	Biotic soil crusts	+	Rock fractured in place
+	Bioturbation	+	Rock varnish
+	Caliche: coatings / layers / rubble	+	Rock weathering
–	Carbonate etching	+	Rubified rock undersides
–	Coppice dunes: active / relict	+	Soil development
–	Deflated surface	+	Surface rounding of landform
+	Pavement	+	Woody debris in place
	Other:		

Substrate Particle Size

Estimated percentages		
0	% Bedrock / Cemented substrate	
5	% Boulder	≥ 256 mm
40	% Cobble	≥ 64 – 256mm
50	% Pebble	≥ 4 – 64 mm
3	% Granule	≥ 2 – 4 mm
1	% Sand	≤ 2 mm
1	% Silt/Clay	Fines

Fluvial Indicators

+	Bars: sand / gravel	+	Mud: cracks / curls / drapes	+	Sediment tails: sand / gravel
+	Cut banks	+	Organic drift	+	Vegetation-channel alignment
+	Drainage swales	+	Overturned rocks	+	Water-cut benches
+	Exposed roots	+	Scour	+	Wrack
+	First-order streams	+	Sediment ramps: sand / gravel	+	Wrinkle marks
+	Flow lineations	+	Sediment sorting		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
20%	AMBROSIA SALSOLA – 10% BEBBIA JUNCEA 3% CREOSOTE 1% SMOKE TREE 1%	– 1×1 – .5×.5 – 2×2 – 3×2

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences): GREATER DENSITY IN WATERCOURSE ANNUALS ALMOST ABSENT FROM UPLANDS

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences): UPLANDS DOMINATED BY CREOSOTE

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences) CREOSOTE MORE ABUNDANT ANNUALS ABSENT

Site ID:	Stream ID:	page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

+	Bar forms: sand / gravel	+	Secondary channels
+	Bifurcated flow	–	Sediment plastering
+	Drainage swales	+	Sediment ramps: sand / gravel
–	Flow lineations	–	Sediment sheets: sand / gravel
–	Imbricated gravel	+	Sediment sorting
+	Levee ridges: sand / gravel	+	Sediment tails: sand / gravel
–	Mud: cracks / curls / drapes	+	Vegetation-channel alignments
+	Organic drift	+	Wrack
+	Overturned rocks	+	Wrinkle marks
+	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
–	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages

0	% Bedrock / Cemented substrate	
15	% Boulder	≥ 256 mm
40	% Cobble	≥ 64 – 256 mm
35	% Pebble	≥ 4 – 64 mm
5	% Granule	≥ 2 – 4 mm
3	% Sand	≤ 2 mm
2	% Silt/Clay	Fines

Erosion Indicators

+	Cut banks	–	Rills	+	Water-cut benches
+	Exposed roots	+	Scour	–	Water level mark
	Headcuts	+	Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
10%	CREOSOTE: 9% ABBDOM: 1%	1x1 .5x.5

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

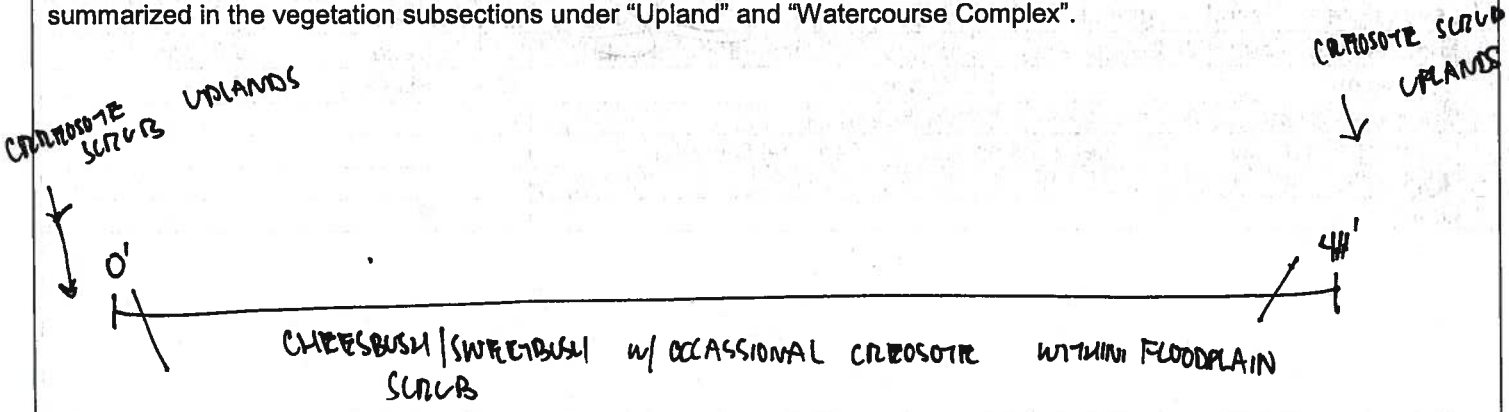
Site ID	Stream ID	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

~	Algal crusts	—	Sand-filled channels		
—	Beach ridges	~	Springs		
—	Coppice dunes: active / relict	~	Substrate staining		
—	Crusts: carbonate / salt / soda	+	Vegetation-landscape alignments		
~	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



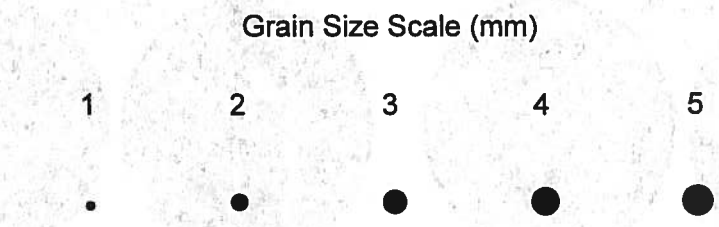
Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

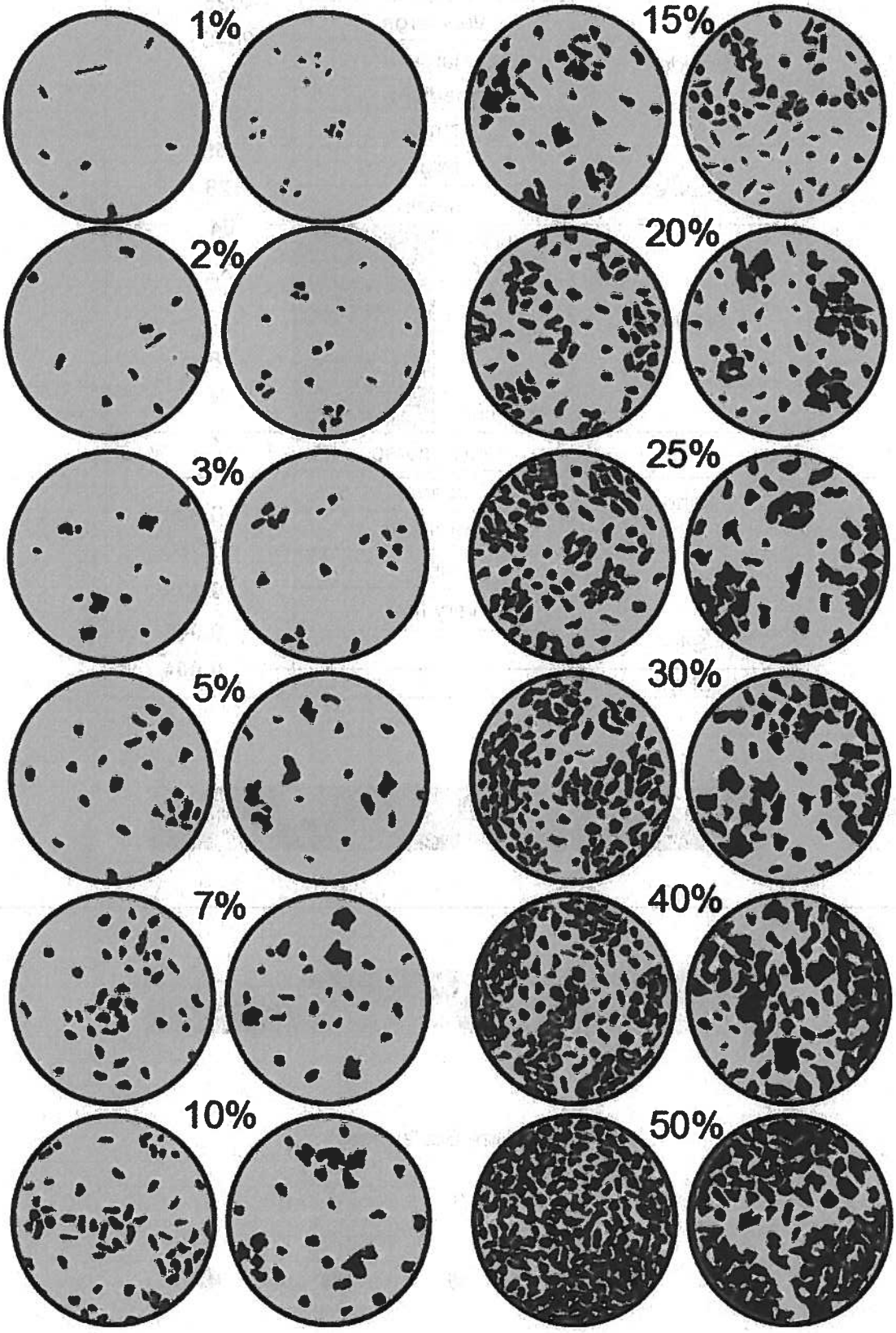
Photo ID #	Description	GPS location	

Particle Size Gradations

Description of particle size			millimeters
Boulder	mammoth		4096
	very large		2048
	large		1024
	medium		512
	small		**256**
Cobble	large		128
	small		**64**
Gravel	very coarse	Pebble	32
	coarse		16
	medium		8
	fine		4
	very fine	Granule	**2**
Sand	very coarse		1
	coarse		0.500
	medium		0.250
	fine		0.125
	very fine		**0.063**
Silt			**0.004**
Clay			



Percent Landscape Cover Diagram



OHWM Delineation Cover Sheet Page 01 of 02

Project: _ **Date:** 1/31/19

Location: _ **Investigator(s):**

Drainage Name / ID#: Wash #3 A

Location within Site: _____

Representative GPS Point: (*lat/long; decimal degrees*)

_____

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Natural condition & Natural banks except where dirt road crosses some erosion of banks.
Broad drainage 980 ft wide

Minor disturbance (soils piled) in wash on one side in upper floodplain on edge. from road work

Off-site Information

Remotely sensed image(s) acquired? ☐ **Yes** ☒ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

AERIAL / GOOGLE EARTH PHOTO

Hydrologic/hydraulic information acquired? ☐ **Yes** ☒ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

APPROX. 750' WIDE

List and describe any other supporting information received/acquired:

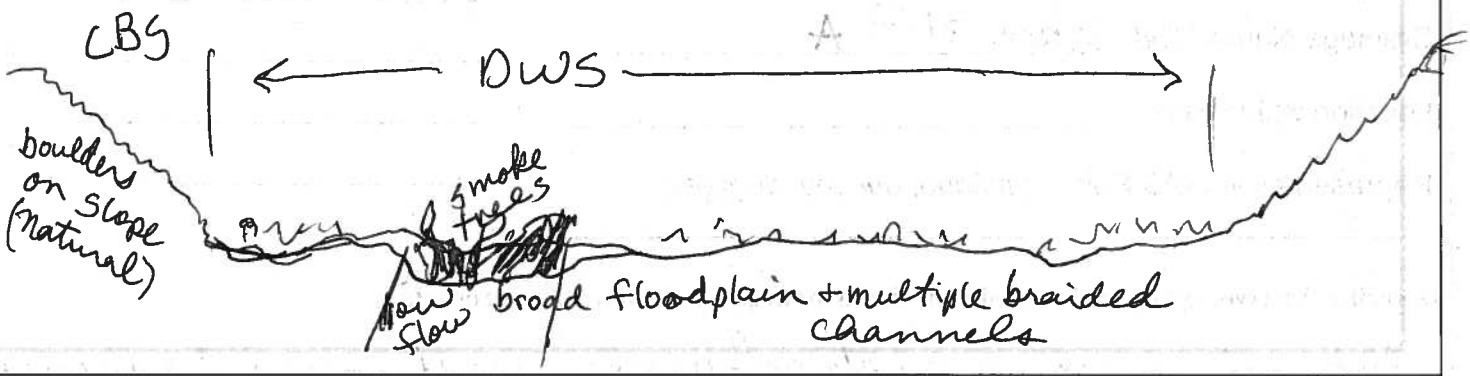
JD PHOTO POINT 3A UPSTREAM
" " " " DOWNSTREAM

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

1/31/19 Wash #3

Datasheet # ___of___ **OHWM Delineation Datasheet** Page 02 of 02

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☒ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	10	<1	5	50	35	
Below OHWM	2	5	50	25	18	

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	0	10	0	90
Below OHWM	5	15	15	65

Notes/Description:

Vegetation Communities/Notable Species: DWS + Olneya tesota + Ambrosia sals + Senegalia greggii + Encelia actonii + Bebbia juncea + Cryptantha spp. + Larrea trid.

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

CBS in upland

OHWM Delineation Cover Sheet

Project: Ash Hill

Date: 1/31/19

Location:

Investigator(s): Bonnie Hendricks, John Parent

Drainage Name / ID#: Wash #1

Location within Site:

Representative GPS Point: (*lat/long; decimal degrees*)

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Piles of boulders either side of channel pushed with heavy equipment.

Off-site Information

Remotely sensed image(s) acquired? ☐ Yes ☒ No [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

AERIAL PHOTO AND/OR GOOGLE EARTH

Hydrologic/hydraulic information acquired? ☐ Yes ☒ No [If yes, attach information to datasheet(s) and describe below.] Description:

1-2' ?

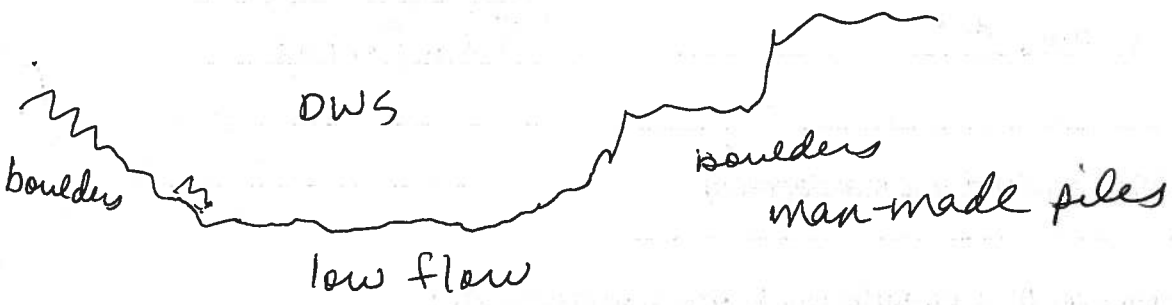
List and describe any other supporting information received/acquired:

JD PHOTO POINT 1 UPSTREAM
" " " " DOWNSTREAM

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # ___of___ 1/31/19 **OHWM Delineation Datasheet** Wash #1 Page 02 of 02

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☒ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	<1%	3%	5%	2%	90%	
Below OHWM	<1	5%	15%	30%	50%	

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	0	5%	<1	95%
Below OHWM	5%	10%	5%	80%

Notes/Description:

Vegetation Communities/Notable Species: DWS + Oneya tesota + Senegalia greggii + Bebbia juncea + Aristida + Ambrosia salsola

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

CBS in upland

OHWM Delineation Cover Sheet Page 01 of 02

Project: Ash Hill **Date:** 1/30/19

Location: Wash #9 **Investigator(s):** Bonnie Hendricks, John Parent

Drainage Name / ID#: Wash #9

Location within Site:

Representative GPS Point: (*lat/long; decimal degrees*)
34.685444720 -116.00503630

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Dirt road crossing stream / Arizona crossing
Otherwise undisturbed

Off-site Information

Remotely sensed image(s) acquired? ☐ **Yes** ☒ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Aerial Photo

Hydrologic/hydraulic information acquired? ☐ **Yes** ☒ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

Approx 30 ft width

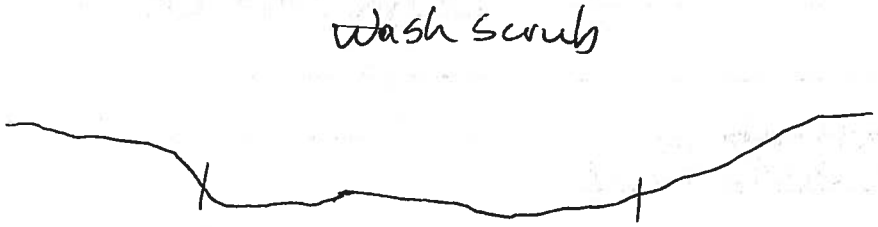
List and describe any other supporting information received/acquired:

JD Photo Point 9 upstream
JD " " " downstream

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # ___of___ 1/30/19 **OHWM Delineation Datasheet** Wash#9 Page 02 of 02

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	5%	10%	25%	50%	10%	N
Below OHWM	10%	10%	50%	25%	5%	N

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	0	10%	5%	85%
Below OHWM	0	15%	10%	75%

Notes/Description:

Vegetation Communities/Notable Species: Desert Dry Wash dominated by Crypt. + Bebbia juncea Phacelia + Larrea tridentata Annuals starting to bloom in wash

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Absence of Bebbia outside drainage.
Only Larrea trid in upland
Drainage pattern/Wash trib to larger wash

OHWM Delineation Cover Sheet Page 01 of 02

Project: Ash Hill **Date:** 1/31/19

Location: _ **Investigator(s):** Bonnie Hendricks, John Parent

Drainage Name / ID#: Wash #H36

Location within Site: _____

Representative GPS Point: (*lat/long; decimal degrees*)

_____

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Road alignment runs down this broad, low wash on existing dirt road within the wash. Disturbed by vehicle tracks, man-made berm on opposite side, and berm ~~for~~ and bridge for railroad crossing over wash.

Off-site Information

Remotely sensed image(s) acquired? ☐ Yes ☒ No [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

AERIAL PHOTO / GOOGLE EARTH

Hydrologic/hydraulic information acquired? ☐ Yes ☒ No [If yes, attach information to datasheet(s) and describe below.] Description:

RANGES FROM APPROX 480' – 940' WIDE

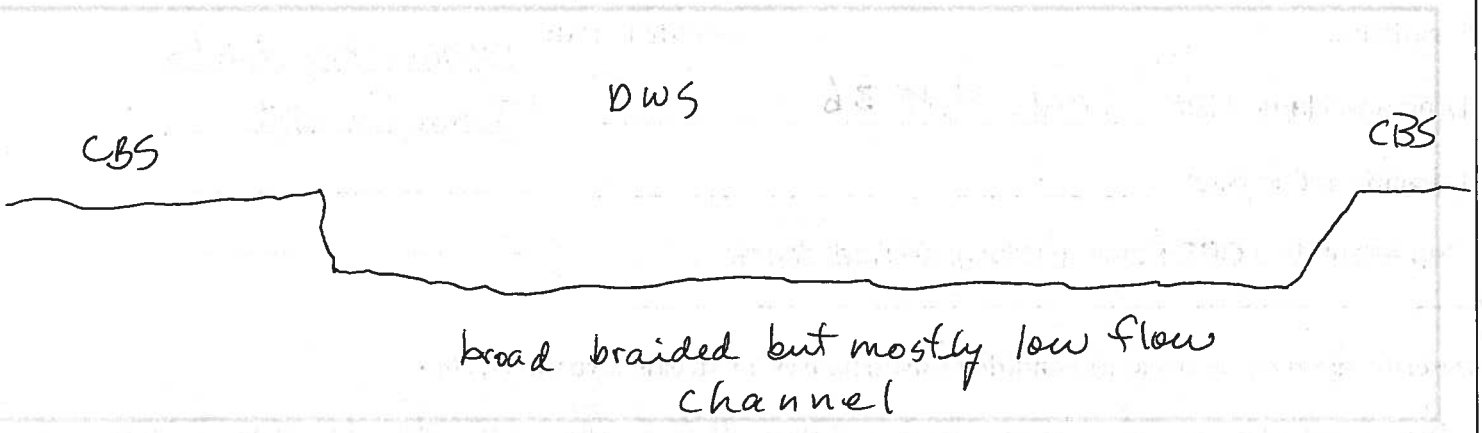
List and describe any other supporting information received/acquired:

JD	PHOTO	POINTS	3B	UPSTREAM
"	"	"	"	DOWNSTREAM

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # ___of___ 1/31/19 **OHWM Delineation Datasheet** Wash # 4 Page 02 of 02

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☒ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	5	33	40	20	2	Y
Below OHWM	3	10	70	15	2	

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	0	25	2	75
Below OHWM	3	10	15	70

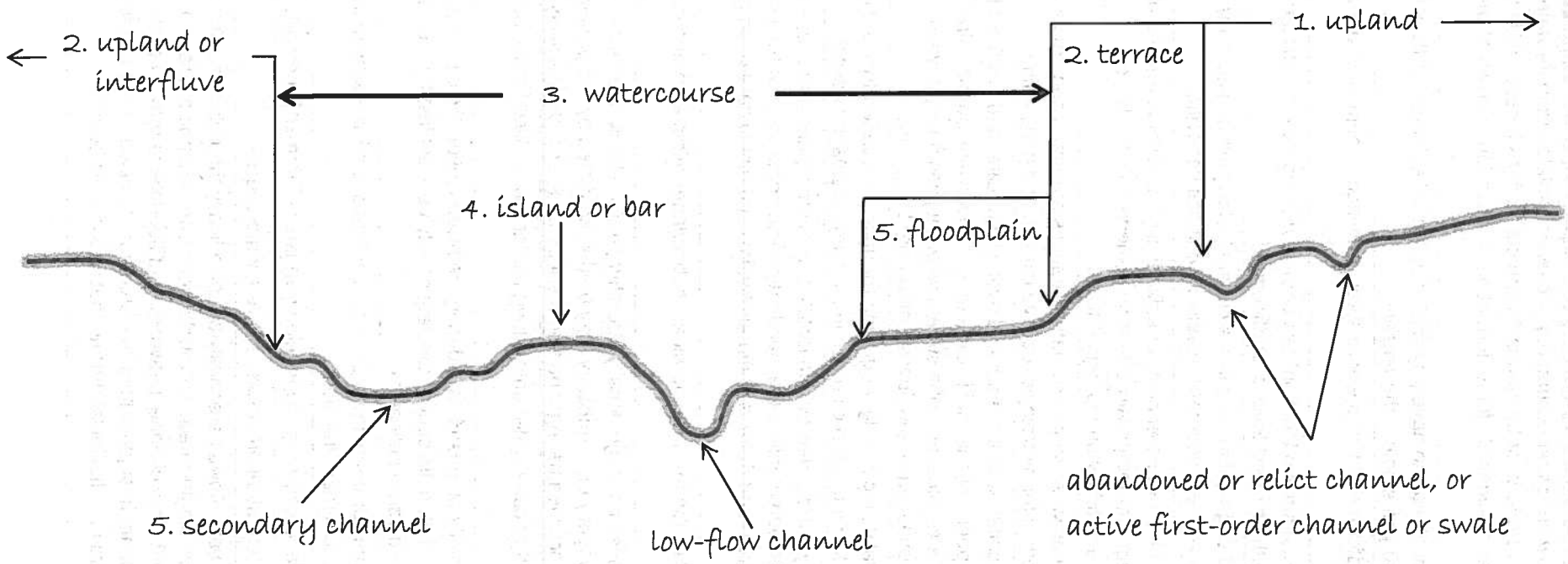
Notes/Description:

Vegetation Communities/Notable Species: DWS +Olneya tesota +Ambrosia salsola +Encelia actonil

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

CBS

Representative Watercourse Cross Section with Associated Geomorphic Units



Guidance on Defining Watercourse Boundaries

1. **Uplands:** although dominated by terrestrial processes, uplands commonly include drainage swales and first- and sometimes higher-order streams. Document the presence and fluvial activity of these with a separate longitudinal survey using both the Watercourse and Upland indicators section of the Data Sheet.
2. **Terraces and interfluves:** are upland landforms. If the differences between terrace or interfluve and upland surface indicators are nominal and terrestrial indicators dominate, include their indicators on the Upland Indicators section of the Data Sheet. If the surfaces of terraces or interfluves have indicators of fluvial activity, reconsider the landform interpretation as floodplain within the watercourse boundaries, and include these indicators on the Watercourse Indicators section of the Data Sheet. If the surfaces or the percent cover and vigor of the vegetation on the terraces or interfluves notably differ from those on the adjacent upland, describe these differences in the notes to the vegetation sections of the Data Sheet.
3. **Watercourse:** includes all functionally related swales, single-thread channels, compound channels, braided channels, discontinuous and distributary channel networks, islands, and floodplains.
4. **Islands:** these bodies of land and the unique habitat they provide are defined and often formed by the water that surrounds and interacts with them. They are part of the watercourse unless their landscapes and ecosystem characteristics differ from those of the watercourse, and there is minimal physical or biological exchange between them and the stream. Document differences in surface indicators or vegetation on the Upland Indicators section of the Data Sheet and in explanatory notes.
5. **Floodplains and secondary channels:** lie within the bounds of a watercourse, and are essential to stream and ecosystem function. Include their indicators with those of the Watercourse Indicators section of the Data Sheet.

Episodic Stream Indicator Data Sheet			page 1 of 4
Site ID: Ash Hill	Stream ID:		Date: 1/31/19
Nearest Town:		County:	
Investigators: John Parent			

Base Map

Aerial Photo #:	Date: ~~1/31/19~~	Topographic Map Name:	Date:

GPS Data

GPS Name:	Datum:	Transect Elevation:	Zone 10 / 11	GPS Error: ± ft / m
GPS co-ords start of transect:		GPS co-ords end of transect:		

Geomorphic Province (✓one)		Mojave		Sonoran/Colorado		Great Basin	Other:

Landform (✓ all that apply)

	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa

Channel Form (✓ one)

	Single thread		Braided		Compound		Distributary		Discontinuous	Other:

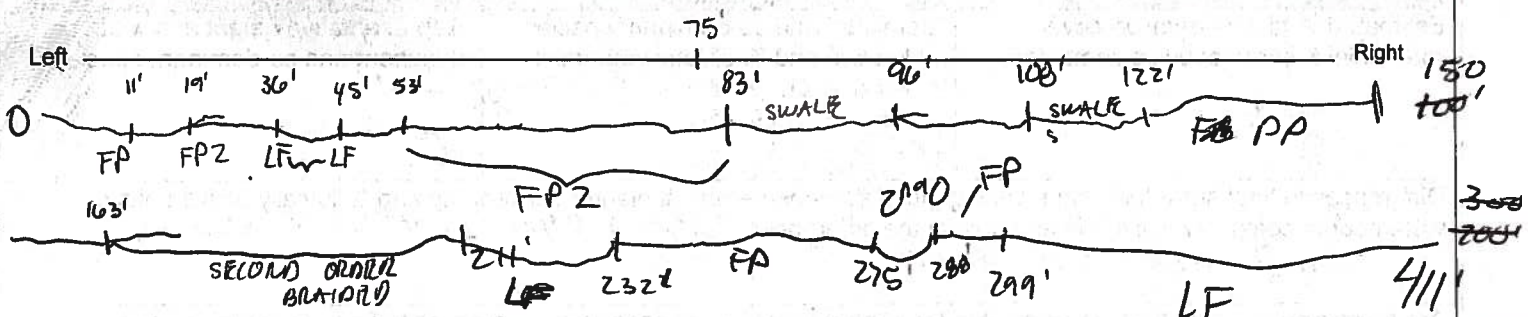
Transect was selected to:

✓	Document fluvial activity & boundaries		Document channel elevations & boundaries
	Document habitat associations		Document a change in watercourse morphology
	Other:		

Date of most recent runoff event (if known):

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function: UNPAVED ROAD, BERMED ON BOTH SIDES, BISECTING CHANNEL. STREAM OCCUPIES WIDTH OF VALLEY BOTTOM, IS SURROUNDED BY DESERT PAVEMENT, FEW ROLLING HILLS. GRADUAL ELEVATIONAL GRADIENT FROM EAST TO WEST ACROSS VALLEY BOTTOM.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.



Site ID:	Stream ID:	page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

+	Bar forms: sand / gravel	+	Secondary channels
+	Bifurcated flow	–	Sediment plastering
+	Drainage swales	+	Sediment ramps: sand / gravel
–	Flow lineations	–	Sediment sheets: sand / gravel
–	Imbricated gravel	+	Sediment sorting
+	Levee ridges: sand / gravel	+	Sediment tails: sand / gravel
–	Mud: cracks / curls / drapes	+	Vegetation-channel alignments
+	Organic drift	+	Wrack
+	Overturned rocks	+	Wrinkle marks
+	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
–	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages

0	% Bedrock / Cemented substrate	
15	% Boulder	≥ 256 mm
40	% Cobble	≥ 64 – 256 mm
35	% Pebble	≥ 4 – 64 mm
5	% Granule	≥ 2 – 4 mm
3	% Sand	≤ 2 mm
2	% Silt/Clay	Fines

Erosion Indicators

+	Cut banks	–	Rills	+	Water-cut benches
+	Exposed roots	+	Scour	–	Water level mark
	Headcuts	+	Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
10%	CREOSOTE: 9% ABBDOM: 1%	1x1 .5x.5

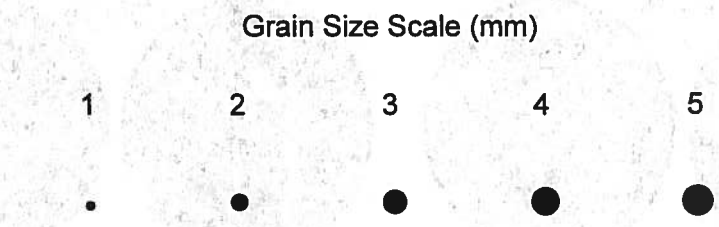
Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

Particle Size Gradations

Description of particle size			millimeters
Boulder	mammoth		4096
	very large		2048
	large		1024
	medium		512
	small		**256**
Cobble	large		128
	small		**64**
Gravel	very coarse	Pebble	32
	coarse		16
	medium		8
	fine		4
	very fine	Granule	**2**
Sand	very coarse		1
	coarse		0.500
	medium		0.250
	fine		0.125
	very fine		**0.063**
Silt			**0.004**
Clay			



Appendix C

Site Photographs

AECOM Imagine it. Delivered.

APPENDIX C – JANUARY 2019
PHOTOGRAPHS

Client Name:	**Site Location:**
InterConnect	Ash Hill Project

Photo No.	**Date:**
1	01/31/19

Direction Photo Taken:

Northwest

Description:

Looking upstream along Wash 1 from the access road.

Photo No.	**Date:**
2	01/31/19

Direction Photo Taken:

Southeast

Description:

Looking downstream along Wash 1 from the access road.

AECOM Imagine it. Delivered.

APPENDIX C – JANUARY 2019
PHOTOGRAPHS

Client Name:	**Site Location:**
InterConnect	Ash Hill Project

Photo No.	**Date:**
3	01/31/19

Direction Photo Taken:

Northeast

Description:

Looking upstream along Wash 2 from the access road.

Photo No.	**Date:**
4	01/31/19

Direction Photo Taken:

Southwest

Description:

Looking downstream along Wash 2 from the access road.

Client Name:	**Site Location:**
InterConnect	Ash Hill Project

Photo No.	**Date:**
5	01/31/19

Direction Photo Taken:

East

Description:

Looking east along the access road across Wash 3 – North.

Photo No.	**Date:**
6	01/31/19

Direction Photo Taken:

West

Description:

Looking west along the access road across Wash 3 – North.

Client Name:	**Site Location:**
InterConnect	Ash Hill Project

Photo No.	**Date:**
7	01/31/19

Direction Photo Taken:

North

Description:

Looking north from within Wash 3 – South towards the existing road failure.

Photo No.	**Date:**
8	01/31/19

Direction Photo Taken:

South

Description:

Looking south from within Wash 3 – South towards the railroad bridge.

Client Name:	**Site Location:**
InterConnect	Ash Hill Project

Photo No.	**Date:**
9	01/31/19

Direction Photo Taken:

Northwest

Description:

Looking upstream along Wash 4 from the access road.

Photo No.	**Date:**
10	01/31/19

Direction Photo Taken:

Southeast

Description:

Looking downstream along Wash 4 from the access road.

Client Name:	**Site Location:**
InterConnect	Ash Hill Project

Photo No.	**Date:**
11	01/31/19

Direction Photo Taken:

North

Description:

Looking upstream along Wash 5 from the access road.

Photo No.	**Date:**
12	01/31/19

Direction Photo Taken:

South

Description:

Looking downstream along Wash 5 from the access road.

Client Name:	**Site Location:**
InterConnect	Ash Hill Project

Photo No.	**Date:**
13	01/31/19

Direction Photo Taken:

North

Description:

Looking upstream along Wash 6 from the access road.

Photo No.	**Date:**
14	01/31/19

Direction Photo Taken:

South

Description:

Looking downstream along Wash 6 from the access road.

Client Name:	**Site Location:**
InterConnect	Ash Hill Project

Photo No.	**Date:**
15	01/31/19

Direction Photo Taken:

Northeast

Description:

Looking upstream along Wash 7 from the access road.

Photo No.	**Date:**
16	01/31/19

Direction Photo Taken:

Southwest

Description:

Looking downstream along Wash 7 from the access road.

Client Name:	**Site Location:**
InterConnect	Ash Hill Project

Photo No.	**Date:**
17	01/31/19

Direction Photo Taken:

East

Description:

Looking east from the start of the MESA transect, within Wash 8 – West, just north/upstream of the access road.

Photo No.	**Date:**
18	01/31/19

Direction Photo Taken:

East

Description:

Looking east along the MESA transect, within Wash 8 – West, approximately 150-feet across the channel, just north/upstream of the access road.

Client Name:	**Site Location:**
InterConnect	Ash Hill Project

Photo No.	**Date:**
19	01/31/19

Direction Photo Taken:

East

Description:

Looking east along the MESA transect, within Wash 8 – West, approximately 100-feet from the eastern side of the channel, just north/upstream of the access road.

Photo No.	**Date:**
20	01/31/19

Direction Photo Taken:

West

Description:

Looking west from the end of the MESA transect, within Wash 8 – West, just north/upstream of the access road.

Client Name:	**Site Location:**
InterConnect	Ash Hill Project

Photo No.	**Date:**
21	01/31/19

Direction Photo Taken:

North

Description:

Looking upstream along Wash 8 - East from the access road.

Photo No.	**Date:**
22	01/31/19

Direction Photo Taken:

Southwest

Description:

Looking downstream along Wash 8 - East from the access road.

Client Name:	**Site Location:**
InterConnect	Ash Hill Project

Photo No.	**Date:**
23	01/30/19

Direction Photo Taken:

Northeast

Description:

Looking upstream along Wash 9 from the access road.

Photo No.	**Date:**
24	01/30/19

Direction Photo Taken:

Southwest

Description:

Looking downstream along Wash 9 from the access road.

Client Name:	**Site Location:**
InterConnect	Ash Hill Project

Photo No.	**Date:**
25	01/30/19

Direction Photo Taken:

North

Description:

Looking upstream along Wash 10 from the access road.

Photo No.	**Date:**
26	01/30/19

Direction Photo Taken:

South

Description:

Looking downstream along Wash 10 from the access road.

Client Name:	**Site Location:**
InterConnect	Ash Hill Project

Photo No.	**Date:**
27	01/31/19

Direction Photo Taken:

Northwest

Description:

Looking upstream along Wash 11 from the access road.

Photo No.	**Date:**
28	01/31/19

Direction Photo Taken:

Southeast

Description:

Looking downstream along Wash 11 from the access road.

Appendix D

Observed Plant List

Appendix D. Ash Hill - List of Observed Plant Species

Family Scientific Name	Common Name	Native/ Non-native	Life Form	Wetland Indicator Rating
Agavaceae				
Yucca brevifolia	Joshua tree	Native	Tree	NL
Asteraceae				
Ambrosia dumosa	Burro weed	Native	Shrub	NL
Ambrosia salsola	Cheesebrush	Native	Shrub	NL
Bahiopsis parishii	Parish viguiera	Native	Shrub	NL
Chaenactis glabriuscula	Yellow pincushion	Native	Annual herb	NL
Encelia farinosa	Acton encelia	Native	Shrub	NL
Monoptilon belloides	Desert star	Native	Annual herb	NL
Perityle emoryi	Rock daisy	Native	Annual herb	NL
Boraginaceae				
Cryptantha ssp.	Forget-me-not	Native	Annual herb	NL
Cactaceae				
Cylindropuntia acanthocarpa	Buck horn cholla	Native	Perennial herb (stem succulent)	NL
Ferrocactus cylindraceus	California barrel cactus	Native	Shrub (stem succulent)	NL
Opuntia basilaris	Beavertail	Native	Shrub (stem succulent)	NL
Ephedraceae				
Ephedra sp.	Ephedra	Native	Shrub	NL
Fabaceae				
Senegalia greggii	Catclaw acacia	Native	Shrub	FACU
Psorothamnus arborescens	Mojave indigo bush	Native	Shrub	FACU
Hydrophyllaceae				
Phacelia campanularia ssp. *vasiformis*	Desert Canterbury bells	Native	Annual herb	NL
Lamiaceae				
Condea emoryi	Desert lavender	Native	Shrub	NL
Scutellaria Mexicana	Paperbag bush	Native	Shrub	NL
Papaveraceae				
Eschscholzia glyptosperma	Mojave gold poppy	Native	Annual herb	NL
Polygonaceae				
Eriogonum fasciculatum	California buckwheat	Native	Shrub	NL
Eriogonum inflatum	Desert trumpet	Native	Perennial herb	NL
Poaceae				

Appendix D. Ash Hill - List of Observed Plant Species

Family Scientific Name	Common Name	Native/ Non-native	Life Form	Wetland Indicator Rating
Hilaria rigida	Big galleta grass	Native	Perennial grass	NL
Aristida purpurea	Purple threeawn	Native	Perennial grass	NL
Solanaceae				
Physalis crassifolia	Thick-leaved ground cherry	Native	Shrub	NL
Zygophyllaceae				
Larrea tridentata	South american creosote bush	Native	Shrub	NL

Appendix E

Geology Map

https://ngmdb.usgs.gov/ngm-bin/pdp/zui_viewer.pl?id=34693

Apps | Vegetation Commun | Scientific Collecting | Browse - California C | Permits for Threaten | Land IQ | UC Davis: Center for | Calflora Observer Pro | News and Applicatio | About the Conferenc | San Francisco Estuar | BCDC - San Francisc | San Francisco District

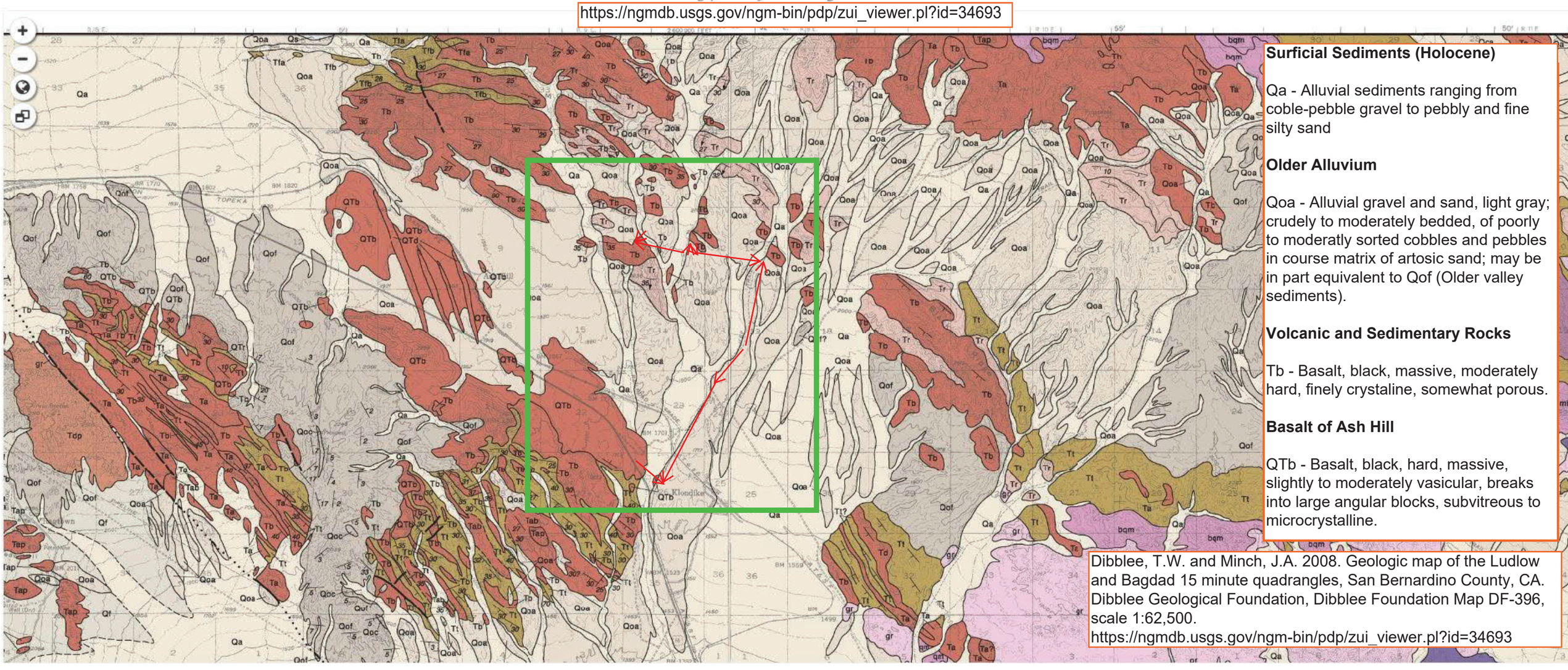
National Geologic Map Database

Preview

Dibblee, T.W., and Minch, J.A., 2008, Geologic map of the Ludlow & Bagdad 15 minute quadrangles, San Bernardino County, California: Dibblee Geological Foundation, Dibblee Foundation Map DF-396, scale 1:62,500

Image provided by Dibblee Geological Foundation

https://ngmdb.usgs.gov/ngm-bin/pdp/zui_viewer.pl?id=34693



Surficial Sediments (Holocene)

Qa - Alluvial sediments ranging from coble-pebble gravel to pebbly and fine silty sand

Older Alluvium

Qoa - Alluvial gravel and sand, light gray; crudely to moderately bedded, of poorly to moderatly sorted cobbles and pebbles in course matrix of artosic sand; may be in part equivalent to Qof (Older valley sediments).

Volcanic and Sedimentary Rocks

Tb - Basalt, black, massive, moderately hard, finely crystaline, somewhat porous.

Basalt of Ash Hill

QTb - Basalt, black, hard, massive, slightly to moderately vasicular, breaks into large angular blocks, subvitreous to microcrystalline.

Dibblee, T.W. and Minch, J.A. 2008. Geologic map of the Ludlow and Bagdad 15 minute quadrangles, San Bernardino County, CA. Dibblee Geological Foundation, Dibblee Foundation Map DF-396, scale 1:62,500.
https://ngmdb.usgs.gov/ngm-bin/pdp/zui_viewer.pl?id=34693

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Attachment C. Sensitive Species - Potential for Occurrence Tables

(***Adapted from Ash Hill Biological Assessment and Desert Tortoise Survey Report (2017)***

4.7.2 *Special Status Elements*

Plant or animal taxa may be considered sensitive or special status due to declining populations, vulnerability to habitat change, or because they have restricted ranges. Some are listed as threatened or endangered by the USFWS and are protected by the ESA. Others have been identified as sensitive or as special status species by the USFWS, CDFW, or by private conservation organizations, including the California Native Plant Society (CNPS).

Habitat associations, natural history, seasonality, distribution, and the types of surveys conducted all affect the detectability of the various sensitive plants and animals known to occur throughout the region. For that reason, some special status species that were not observed in the BSA still have the potential to occur based on their geographic distribution, habitat preferences, and the regional location of the site. Appropriate seasonal focused surveys could more definitively determine their presence or absence.

The literature review and biological resources assessment resulted in the identification of 12 special status elements which were either observed in the BSA or had known records within an approximate five-mile radius of the site. These included four plants, two reptiles, four birds, and two mammals. Tables 1 through 4 provide a complete list of these sensitive biological resources, their associated status, their general habitat associations, and their respective potential to occur in the BSA based on geographic distribution, presence of potentially suitable habitat, best available information, and the collective expertise of Amec Foster Wheeler biologists. Those that

were encountered during the 2017 survey and those that were considered to potentially be present are discussed further following the table.

Table 1. Special Status Plants

Note: Yellow highlight is for species with probability designations of "Occurs" and "High."

Species	Status	Habitat	Probability
Coryphantha alversonii **foxtail cactus**	F = ND C = S3 CNPS = 4.3	Mojave and Sonoran desert scrub. 75 to 1,525 meters (m.). Blooms (B): April – June.	**Moderate** Suitable habitat present. Not detected, but no focused plant survey conducted.
Eriastrum harwoodii **Harwood's eriastrum**	F = BLM C = S2 CNPS = List 1.B2	Desert dunes; 125 - 915 m. B: March–June.	**Absent** No dunes
Funastrum utahense **Utah vine milkweed**	F = ND C = S4 CNPS = 4.2	Mojave and Sonoran desert scrub. 100 to 1,435 m. Blooms (B): (March) April-June (September-October).	**Moderate** Suitable habitat present. Not detected, but no focused plant survey conducted.
Saltugilia latimeri **Latimer's woodland-gilia**	F = BLM C = S3 CNPS = List 1B.2	Chaparral, Mojave desert scrub; pinyon and juniper woodland. 400-1,900 m. B: March – June.	**Moderate** Suitable habitat present. Not detected, but no focused plant survey conducted.

Table 2. Special Status Reptiles

Species	Status	Habitat	Probability
Gopherus agassizi **desert tortoise**	F: **THR** C: **THR**, S2	Creosote bush scrub, Joshua tree woodland, saltbush scrub; washes, arroyos, bajadas, rocky hillsides, open flat desert.	**Occurs** Fresh sign present
Uma scoparia **Mojave fringe-toed lizard**	F = BLM C = SSC, S3S4	Requires fine, loose, windblown sand interspersed with hardpan and widely spaced desert shrubs.	**Absent** Insufficient sand

Table 3. Special Status Birds

Species	Status	Habitat	Probability
Athene cunicularia **burrowing owl**	F = MBTA, BCC, BLM C = SSC, S2	Open, dry annual or perennial grassland, deserts & scrublands characterized by low-growing vegetation. Burrows essential.	**Moderate** Suitable habitat present. Not detected, but no focused owl survey conducted.
Falco mexicanus **prairie falcon**	F = MBTA, BCC C = SSC, S3	Breeding sites located on cliffs, but forages far afield.	**Occurs** Seen foraging onsite, nesting cliffs in the area.
Lanius ludovicianus **loggerhead shrike**	F = MBTA, BCC C = SSC, S4	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub & washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	**Occurs** Seen onsite, breeding habitat present
Polioptila melanura **black-tailed gnatcatcher**	F = MBTA C = WL, S3S4	Primarily inhabits wooded desert wash habitats; also occurs in desert scrub habitat, especially in winter.	**Occurs** Seen onsite, breeding habitat present

Table 4. Special Status Mammals

Species	Status	Habitat	Probability
Ovis canadensis nelsoni **desert bighorn sheep**	F: BLM C: FP, S3	Open, rocky, steep areas with available water and herbaceous forage.	**Low** Marginal habitat available along access route. Could potentially forage in area in wetter seasons.
Taxidea taxus **American badger**	F = ND C = SSC, S3	Inhabits areas herbaceous, shrub, and open stages of most habitats with dry, friable soils.	**High** Suitable habitat and potential burrows present.

Definitions of status designations and occurrence probabilities for Tables 1-4

Definitions of occurrence probability:

Occurs: Observed onsite by Amec Foster Wheeler personnel or recently reported onsite by another reliable source.

High: Observed in similar habitat in region by qualified biologists, or habitat onsite is a type often utilized by the species and the site is within the known range of the species.

Moderate: Reported sightings in surrounding region, or site is within the known range of the species and habitat onsite is a type occasionally used by the species.

Low: Site is within the known range of the species but habitat onsite is rarely used by the species

Absent: A focused study failed to detect the species, suitable habitat not present, or site is outside the geographic distribution of the species.

Unknown: No focused surveys have been performed in the region, species' distribution and habitat are poorly known.

Definitions of status designations and occurrence probabilities for Tables 1-4 (Continued)

Federal designations: (F = federal Endangered Species Act or USFWS designations)
END:Federally listed, Endangered
THR:Federally listed, Threatened
CAN:Candidate for Federal listing
MBTA: Migratory Bird Treaty Act
BEPA:Bald Eagle Protection Act (also protects Golden Eagles)
BCC:Birds of Conservation Concern
BLM: BLM Sensitive
ND:No designation

***State designations*:** (C = California Endangered Species Act or CDFW designations)
END:State listed, Endangered
THR:State listed, Threatened
CAN:Candidate for State listing
RARE:State listed, Rare
FP:Fully Protected Species
SSC:Species of Special Concern
WL:Watch List Species
ND:No designation

CDFW state rankings are a reflection of the overall condition of an element throughout its California range. The number after the decimal point represents a threat designation attached to the rank:
S1 = Critically Imperiled. Less than (<) 6 Element Occurrences (EOs) OR < 1,000 individuals OR < 2,000 acres
- **S1.1** = very threatened
- **S1.2** = threatened
- **S1.3** = no current threats known

S2 = Imperiled. 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres
- **S2.1** = very threatened
- **S2.2** = threatened
- **S2.3** = no current threats known

S3 = Vulnerable. 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres
- **S3.1** = very threatened
- **S3.2** = threatened
- **S3.3** = no current threats known

S4 = Apparently Secure. Uncommon but not rare in the state; some cause for long-term concern.
S5 = Secure. Common, widespread, and abundant in the state.
SH = All known California sites are historical, not extant

CNPS designations:
Primary Categories
LIST 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
LIST 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
LIST 2A: Plants Presumed Extirpated in California, But Common Elsewhere
LIST 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
LIST 3: Plants About Which More Information is Needed - A Review List
LIST 4: Plants of Limited Distribution - A Watch List
Subdivisions within Categories
0.1: Seriously threatened in California
0.2: Moderately threatened in California
0.3: Not very threatened in California

4.7.3 *Special Status Plant Species*

No special status plant species or Unusual Plant Assemblages were encountered during the 2010 or 2017 surveys, but the 2017 survey was not conducted during the season when these species would be most detectable. None of the potentially occurring special status plant species are state or federally listed as threatened or endangered.

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Attachment D1. Applicant Proposed Measures

(***Adapted from Ash Hill Environmental Assessment***)

D1. Applicant Proposed Measures

Appendix A of EA (2018)

The Applicant has proposed a number of measures that would be implemented, if applicable to the project site, as part of the Proposed Action. They are as follows:

Water Quality Control Measures	
WQ-1	Erosion and sediment loss within disturbed areas would be controlled through BMPs such as erosion-control blankets/mats, gravel bags, silt fencing, stabilized construction entrances, and scheduling management. Construction equipment staging and access and disposal or temporary placement of excess fill within drainages would be prohibited.
WQ-3	Whenever possible, grading would be phased to limit soil exposure. Finished areas would be revegetated naturally through an in-situ seedbank.
WQ-4	BMPs would be regularly inspected and repaired. Damaged or worn silt fences, straw wattles, gravel bags, and other BMPs would be replaced prior to rain events.
WQ-5	Equipment would be inspected daily to ensure proper functioning condition and to minimize the potential for fluid leaks. Fluids would be stored in appropriate containers on pallets, inside rubber berms, indoors, or under a cover, as would other materials that could impact storm water runoff. Equipment maintenance activities would be prohibited within the project area.
WQ-6	A hazardous fluid spill prevention plan would be implemented during construction, and would require that equipment operators and other personnel be informed of specific measures to be implemented in the event of a detected fluid leak, including the use of spill containment material, which would be carried with the equipment or vehicle.
WQ-7	Approved portable toilets would be utilized during construction activity, and would be regularly maintained in a sanitary condition.
WQ-9	Vehicles and construction equipment will not be refueled within any washes. Refueling will be conducted at least 100 feet from any channel, if feasible, or secondary containment will be used.
WQ-10	Spill kits will be kept on site. Any spills or leaks will be immediately cleaned up. Stationary equipment (e.g., motors, pumps, generators, and welders) located within or adjacent to the wash will be positioned over secondary containment.
Dust Control Measures	
AQ-1	Vehicle speeds during construction would be limited to 15 miles per hour
GBMP-1	Crews will limit the amount of surface disturbance to the bed and banks of any channel to the minimum amount necessary for construction.
GBMP-2	Soil will not be stockpiled within any wash during periods of no work (e.g., overnight if no work is occurring, on holidays, etc.).
GBMP-3	Water containing mud, silt, or other pollutants from grading, excavation, equipment washing, or other activities will be prevented from entering any washes and will be placed in locations that are not subjected to high storm flows.
GBMP-4	When project-related activities are completed, any excess materials or debris will be removed from the work area.

Soil Stability Measures	
SO-1	Erosion and sediment loss within disturbed areas would be controlled through BMPs such as erosion-control blankets/mats, gravel bags, silt fencing, stabilized construction entrances, and scheduling management. Construction equipment staging and access and disposal or temporary placement of excess fill within drainages would be prohibited.
SO-3	Whenever possible, grading would be phased to limit soil exposure. Finished areas would be revegetated naturally through an in-situ seedbank.
SO-4	BMPs would be regularly inspected and repaired. Damaged or worn silt fences, straw wattles, gravel bags, and other BMPs would be replaced prior to rain events.
Avoid and Minimize Effects to Biological Resources	
BIO-1	Areas of allowed surface disturbance during construction and O&M would be delineated and marked with brush pins. All surface disturbances during construction and O&M would be limited to the minimum area possible and any disturbance outside of that area restricted. This restriction would apply to the communication site and road alignment, as well as temporary staging and parking areas.
BIO-2	Vehicle speeds would be limited to 15 miles per hour on the Proposed Access Road during construction and O&M. Small signs posting this speed limit would be placed at intervals along the road.
BIO-3	A number of invasive plant species are known to occur in the region, and control measures would be implemented during construction and O&M to limit the further spread of these species. Specific requirements would be further detailed in BLM's final conditions of approval, but would likely include the following best management practices (BMPs): a. A monitoring and treatment plan would be developed for specific species, as appropriate. b. Weed-free gravel, base materials, and other imported earthen products would be procured and washed prior to transport to the Action Area. c. A vehicle and equipment wash station would be located at an off-site area to minimize the inadvertent transport of noxious weed seeds into undisturbed areas. Mud and other material on equipment that could contain noxious weed seeds would be removed at a location where the equipment washing itself would not introduce noxious weeds into unaffected areas. d. Soil disturbance would be minimized to include only those areas specifically required for construction and O&M of the Proposed Access Road. e. No herbicidal use is proposed.
ACEC-DIST-2	For the portion of the Proposed Action that is located on undisturbed land or land disturbed by unauthorized activities, the required disturbance mitigation ratio is 3:1. Impacts from the grading associated with the lease area and use of the existing undesignated route for access shall be mitigated at a ratio of 3:1, for a total of 1.23 aces
LUPA-BIO-2	Designated biologist(s), will conduct, and oversee where appropriate, activity-specific required biological monitoring during pre-construction, construction, and decommissioning to ensure that avoidance and minimization measures are appropriately implemented and are effective. The appropriate required monitoring will be determined during the environmental analysis and BLM approval process. The designated biologist(s) will submit monitoring reports directly to BLM.
LUPA-BIO-5	All activities, as determined appropriate on an activity-by-activity basis, will implement a worker education program that meets the approval of the BLM. The program will be carried out during all phases of the project (site mobilization, ground disturbance, grading, construction, operation, closure/decommissioning or project abandonment, and

	restoration/reclamation activities). The worker education program will provide interpretation for non-English speaking workers, and provide the same instruction for new workers prior to their working on site. As appropriate based on the activity, the program will contain information about: • Site-specific biological and nonbiological resources. • Information on the legal protection for protected resources and penalties for violation of federal and state laws and administrative sanctions for failure to comply with LUPA CMA requirements intended to protect site-specific biological and nonbiological resources. • The required LUPA and project-specific measures for avoiding and minimizing effects during all project phases, including but not limited to resource setbacks, trash, speed limits, etc. • Reporting requirements and measures to follow if protected resources are encountered, including potential work stoppage and requirements for notification of the designated biologist. • Measures that personnel can take to promote the conservation of biological and nonbiological resources.
LUPA-BIO-8	All activities that are required to close and decommission the site (e.g., renewable energy activities) will specify and implement project-specific closure and decommissioning actions must be approved by the BLM, and that at a minimum address the following: • Specifying and implementing the methods, timing (e.g., criteria for triggering closure and decommissioning actions), and criteria for success (including quantifiable and measureable criteria). • Recontouring of areas that were substantially altered from their original contour or gradient and installing erosion control measures in disturbed areas where potential for erosion exists. • Restoring vegetation as well as soil profiles and functions that will support and maintain native plant communities, associated carbon sequestration and nutrient cycling processes, and native wildlife species. Any revegetation efforts will be approved by the BLM prior to the start of those activities. • Vegetation restoration actions will identify and use native vegetation composition, native seed composition, and the diversity to values commensurate with the natural ecological setting and climate projections.
LUPA-BIO-10	Consistent with BLM state and national policies and guidance, integrated weed management actions, will be carried out during all phases of activities, as appropriate, and at a minimum will include the following: • Thoroughly clean the tires and undercarriage of vehicles entering or reentering the project site to remove potential weeds. • Store project vehicles on site in designated areas to minimize the need for multiple washings whenever vehicles re-enter the project site. • Properly maintain vehicle wash and inspection stations to minimize the introduction of invasive weeds or subsidy of invasive weeds. • Closely monitor the types of materials brought onto the site to avoid the introduction of invasive weeds and non-native species. • Reestablish native vegetation quickly on disturbed sites. • Monitor and quickly implement control measures to ensure early detection and eradication of weed invasions to avoid the spread of invasive weeds and non-native species on site and to adjacent off-site areas.

LUPA-BIO-14	Implement the following general standard practices to protect Focus and BLM Special Status Species: • Feeding of wildlife, leaving of food or trash as an attractive nuisance to wildlife, collection of native plants, or harassing of wildlife on a site is prohibited. • Any wildlife encountered during the course of an activity, including construction, operation, and decommissioning will be allowed to leave the area unharmed. • Domestic pets are prohibited on sites. This prohibition does not apply to the use of domestic animals (e.g., dogs) that may be used to aid in official and approved monitoring procedures/protocols, or service animals (dogs) under Title II and Title III of the American with Disabilities Act. • All construction materials will be visually checked for the presence of wildlife prior to their movement or use. Any wildlife encountered during the course of these inspections will be allowed to leave the construction area unharmed. • All steep-walled trenches or excavations used during the project will be covered, except when being actively used, to prevent entrapment of wildlife. If trenches cannot be covered, they will be constructed with escape ramps, following up-to-date design standards to facilitate and allow wildlife to exit, or wildlife exclusion fencing will be installed around the trench(s) or excavation(s). Open trenches or other excavations will be inspected by a designated biologist immediately before backfilling, excavation, or other earthwork. • Minimize natural vegetation removal through implementation of crush and drive or cut or mow vegetation rather than removing entirely.
LUPA-BIO-VEG-1	Management of cactus, yucca, and other succulents will adhere to the California Desert Native Plant Act, San Bernardino County Code, and current up-to-date BLM policy.
LUP-BIO-VEG-5	All activities will follow applicable BLM state and national regulations and policies for salvage and transplant of cactus, yucca, other succulents, and BLM Sensitive plants.
	Applicant-Proposed Desert Tortoise Avoidance and Minimization Measures
DT-1	The Applicant would submit the names and qualifications of individuals to be considered for the protected species avoidance and habitat rehabilitation. The Authorized Biologist(s) would be responsible for selecting Biological Monitors and ensuring that that they and personnel involved with the Project are sufficiently trained to successfully implement the conservation measures (CM). The tortoise biological monitor will be on site during all active work to ensure compliance with CM and permit conditions. The tortoise Authorized Biologist and Biological Monitor(s) will have the authority to halt activities that may be in violation of such provisions. A representative designated by InterConnect Towers will also coordinate with the Authorized Biologist and any other designated USFWS representative on matters concerning desert tortoise. The tortoise biological monitor will be on site during all active work to ensure compliance with CM and permit conditions. The tortoise Authorized Biologist and Biological Monitor(s) will have the authority to halt activities that may be in violation of such provisions. A representative designated by InterConnect Towers will also coordinate with the Authorized Biologist and any other designated USFWS representative on matters concerning desert tortoise management responsibilities.
DT-2	Before the start of construction activities, all personnel involved with the Project will participate in a tortoise education program. The program will include at a minimum the following topics: a. A detailed description of the desert tortoise, including color photographs.

	b. The distribution, general ecology and behavior of the desert tortoise, and species' sensitivity to human activities. c. The protection the desert tortoise receives under the Act, including prohibitions and penalties incurred for violation of the Act. d. Personal measures that can be taken to promote the conservation of desert tortoises. e. Procedures and a point of contact if a desert tortoise is observed on-site. f. The worker training program will consist of a verbal presentation by the authorized biologist. Work personnel will be given wallet size cards or a sheet of paper with this information.
DT-3	No desert tortoises shall be handled as part of this Project.
DT-4	Prior to construction of the communication site, the communication site lease area and temporary staging area would be fenced with desert tortoise-proof fencing and an effective desert tortoise-proof gate. The fence would be constructed under the direction of an authorized biologist. The fence would be placed so that burrows (class 1-3) are on the outside of the enclosure and avoided. Fence construction would follow current fence specifications established by USFWS (2009). Where burial of the fence is not possible, the lower 12 inches (30.5 centimeters) would be folded outward against the ground and fastened to the ground to prevent desert tortoises from entering the communication site and staging area. Gate(s) would be desert tortoise-proof and would remain closed except for the immediate passage of vehicles into the communication site or staging areas. The fence would be checked periodically during construction, and repairs would be made when necessary to ensure its integrity. Following construction, the temporary fencing surrounding the entire communication site lease area and staging area would be removed; permanent desert tortoise fencing would remain in place on the chain link fence installed during construction of the communication site. Permanent desert tortoise fencing on the chain link fence would be checked periodically during O&M, and repairs would be made when necessary to ensure its integrity. After the fence installation around the lease areas and staging areas and prior to the start of construction, the authorized biologist would conduct a thorough survey for desert tortoises within the fenced areas. Desert tortoise exclusionary fencing would not be installed along access road segments. Prior to initial grubbing and grading of all-new access roads, a pre-construction clearance survey would be conducted to locate desert tortoise found within the project area. The survey would be conducted by an authorized biologist within 24 hours of the onset of initial grubbing and grading. Pre-construction clearance surveys would be conducted in accordance with USFWS (2009) guidelines. An appropriate number of authorized biologist or biological monitors would be on-site to monitor all ground-disturbing construction and O&M activities. Ground-disturbing O&M activities would include future access road grading. Routine driving on access roads and O&M within the fenced lease areas would not require monitoring by an authorized biologist or biological monitor. The authorized biologist would determine the number of monitors needed. Prior to, and during all construction and O&M activities, all equipment storage and parking would be confined to the maximum extent possible to previously disturbed areas that have been fenced and cleared of desert tortoises. No heavy equipment would be moved into the fenced areas until the area is clear of desert tortoises. A biological monitor would walk in front of equipment during the initial site entry to ensure that no desert tortoises or their burrows are harmed. Workers would inspect for desert tortoises under a vehicle prior to moving it. If personnel encounter a desert tortoise, they will contact an authorized biologist. The desert tortoise would either be allowed to move a safe distance away prior to moving the vehicle, or the authorized biologist may move the desert tortoise out of harm's way to a safe location to

	allow for movement of the vehicle. If the tortoise must be moved, the authorized biologist would ensure that the desert tortoise is relocated in accordance with the Desert Tortoise Field Manual (USFWS 2009). All observations of desert tortoises and their sign would be reported to the authorized biologist as soon as possible. All workers will be informed of their responsibility and instructed to report the presence of any desert tortoise on or near the project site to the tortoise biological monitor. Any tortoises found on the project site will be continuously monitored during all work hours, and all project activities with potential to cause death or injury will cease or be modified, in order to avoid incidental take until the tortoise moves, unassisted and on its own accord, off the project site and out of harm's way. The tortoise biological monitor, who will be present on site during all surface-disturbing activities of the project, will notify the Service by phone, email or other electronic means as soon as practicable, with written notifications (email is acceptable) provided within one workday of the incident. Information to be provided to the Service will include the date and time of the finding, location, a photograph, disposition of the situation, and any other pertinent information..
DT-5	Cross country vehicle use by construction crew is prohibited.
DT-6	Raven nest surveys would be conducted twice yearly between March 15 and June 1, and separated by at least 30 days. If raven nests are observed they would be removed. The developer would pay, prior to construction, a single lump sum contribution to the regional raven management plan as assessed per acre of the Project right-of-way.
LUPA-BIO-IFS-5	Following the clearance surveys (see Glossary of Terms) within sites that are fenced with long-term desert tortoise exclusion fencing a designated biologist (see Glossary of Terms) will monitor initial clearing and grading activities to ensure that desert tortoises missed during the initial clearance survey are moved from harm's way. A designated biologist will inspect construction pipes, culverts, or similar structures: (a) with a diameter greater than 3 inches, (b) stored for one or more nights, (c) less than 8 inches aboveground and (d) within desert tortoise habitat (such as, outside the long-term fenced area), before the materials are moved, buried, or capped. As an alternative, such materials shall be capped before storing outside the fenced area or placing on pipe racks. Pipes stored within the long-term fenced area after completing desert tortoise clearance surveys will not require inspection.
LUPA-BIO-IFS-7	A designated biologist (see Glossary of Terms) will accompany any geotechnical testing equipment to ensure no tortoises are killed and no burrows are crushed.
LUP-BIO-IFS-8	Inspect the ground under the vehicle for the presence of desert tortoise any time a vehicle or construction equipment is parked in desert tortoise habitat outside of areas fenced with desert tortoise exclusion fencing. If a desert tortoise is seen, it may move on its own. If it does not move within 15 minutes, a designated biologist may remove and relocate the animal to a safe location.
LUPA-BIO-ISF-9	Vehicular traffic will not exceed 15 miles per hour within the areas not cleared by protocol level surveys where desert tortoise may be impacted.
Migratory Bird Avoidance and Minimization Measures	
MB-1	Work conducted during nesting season, shall have a pre-ground disturbance survey conducted within 24 hours prior to initiation of construction activities to determine the presence of any active nests. To be in compliance with the International Migratory Bird Act, no birds may be harmed or killed. If active nests are located the construction of the Project will be postponed or halted until the nest is vacated and juveniles have fledged, as determined by the Project biologist. Work will be postponed if the biologist notes evidence of a second nesting attempt. If nesting is adjacent to but not on the Project site, buffers (distance limits) for construction activities will be established to avoid an active nest. Limits will be defined with flagging, fencing, or other appropriate barriers and construction

	personnel will be instructed about the sensitivity of nest areas. The Project biologist should serve as a monitor during those periods when construction activities will occur near (within 300 feet) active nest areas to ensure that no unintentional impacts will occur. The results of the pre-ground disturbance survey and the avoidance measures taken will be submitted to the BLM within 30 days of completion of the surveys and/or construction activity monitoring.
LUPA-BIO-2	Designated biologist(s) (see Glossary of Terms), will conduct, and oversee where appropriate, activity-specific required biological monitoring during pre-construction, construction, and decommissioning to ensure that avoidance and minimization measures are appropriately implemented and are effective. The appropriate required monitoring will be determined during the environmental analysis and BLM approval process. The designated biologist(s) will submit monitoring reports directly to BLM.
Cultural Resource Avoidance and Minimization Measures	
Cult-1	If unanticipated cultural resources are encountered, all work shall cease within 100-feet of the resource and the BLM Needles Field Office archaeologist will be notified immediately to assess the nature of the find.
Cult-2	A cultural resource monitor will be present if any road maintenance takes place within 15 meters of isolate ISO-002, and if that activity would disturb the subsurface at any depth. The only exception to this would be if road maintenance was limited to placing material such as gravel over the existing road bed.

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Ash Hill Communication Site Project

Attachment D2. Restoration Techniques

(***Adapted from Ash Hill 2081 Application***)

Appendix A of NEPA EA (2018)
Ash Hill Communication Site
Restoration Techniques

Restoration would be conducted through one or more of the following techniques. These techniques are intended to help reduce the occurrences of inappropriate route use by restoring and camouflaging undesignated routes.

- **Vertical Mulching***:* Dead plant material would be placed at the beginning of illegal routes in the line-of-sight off of BLM-designated routes to disguise the routes and deter additional illicit OHV traffic. Large dead pieces of plants (e.g., nearby trees, including Joshua trees, shrubs, and materials cleared from the communication site and access road) and rocks placed on the soil surface can act as barricades. Similarly, shrubs or branches planted upright in the soil make the trail blend in with surrounding vegetation. Mulch would be placed in a naturally appearing random pattern, with some scattered on the surface of the soil, and some vertically planted back into the soil. Vertical mulch also benefits restoration by trapping wind-blown seeds and lessening wind erosion just above the ground surface. This work would be primarily accomplished with hand tools. Little soil disturbance would occur, except where mulch is "planted" and thus requires a small hole to anchor the material.

- **Soil Decompaction***:* Undesignated routes with repeated OHV traffic may require soil decompaction to increase water infiltration and facilitate seed germination. Improving water infiltration also allows burrowing wildlife, such as desert tortoise, to inhabit the soil again. Workers would preferably use hand tools such as soil spades, spading forks, and shovels to loosen the top 2 to 6 inches of soil.

- **Mechanical Ripping:** Routes too compacted or wide for use of hand tools may require mechanical ripping to a depth of 6 to 10 inches. A trail bulldozer or grader would pull an attachment to mechanically rip the soil. After ripping, hand tools would be used to camouflage bulldozer tracks. Ripping may provide conditions for germinating nonnative invasive plant species. Therefore, weed control measures would be implemented to limit the spread of these species.

- **Soil/Vertical Pitting***:* Soil/vertical pitting of the soil surface would be applied in key areas to create depressions for windblown seeds, provide for local water collection and increased infiltration, reduce surface erosion, discourage vehicular traffic, and create a visual texture to the surface that blends with surrounding undisturbed areas. Soil/vertical pitting contours the soil to direct water flow and draw windblown seeds to focal spots on the ground. Pits would be approximately 1 to 2 feet wide, 6 inches deep, and spaced 1 to 2 feet apart in order to provide the estimated amount of water that may be needed for a plant to naturally germinate and grow in an arid environment. Pitting would create

suitable microsites to increase seed germination rates and to promote higher survival and growth rates of small plants. This work would be done by shovel, spade, or power auger. Vertical mulch would be added as needed to some of the vertical pits.

- **Soil Imprinting***:* Soil imprinting would entail raking small trenches to roughen the texture on surface soil and to collect windblown seed. Hand tools such as shovels and rakes would be used in sites with fragile soils or steep slopes.

- **Raking***:* On undesignated routes formed from a single trespass (one person on one vehicle at one time) or on routes with scarce vegetation, work crews would rake or sweep, usually with a broom, the top 1 inch of soil to hide evidence of tracks. Soil surfaces may also be contoured to match surrounding land. Hand tools would be the primary method used for this work.

- **Rocks**: A row of large rocks and boulders would be used as barriers to deter use in especially fragile areas. Placement of small rocks would require no equipment and little or no soil disturbance. Large rocks may also be used through the use of dump trucks, trailers, and loaders. Large rocks and boulders removed to the side of the disturbance shall be placed back with the darkened/naturally varnished side facing up in a natural appearing pattern. To help ensure that rock placement appears natural, several rocks would be partially buried into the soil surface (similar to original conditions), rather than being set only on top of the surface.

- **Planting Vegetation***:* Revegetating would involve directly planting native species in the line-of-sight from a BLM-designated OHV trail to accelerate improvements to soil stability, vegetation cover and diversity, and wildlife habitat. Eventually revegetation would disguise routes. Planting would make use of hand tools (shovels) and some mechanized equipment (augers) to dig holes up to 2 feet deep and 1 foot wide, for the largest transplants. In extraordinary cases, transplantation of larger plants would require somewhat larger holes potentially up to 3 feet deep and 3 feet wide. After planting, work can contour soil to direct the flow of rainwater or irrigation water to plant roots.

- **Seeding:** Seeding would require rakes to collect seed from seed banks in the soil or from dried seedpods still attached on plants. Hand sowing would be used to spread seeds across the soil surface. Raking would disturb, at most, the top 1 inch of soil. Hand seeding also may be concurrent with soil pitting (see above) to improve seed germination rates. Several methods described herein provide a seedbed for seed already onsite.

- **Removing Manufactured Materials and Structures:** A restoration team would remove litter and other unsightly or potentially dangerous manufactured materials or structures less than 50 years old. If the restoration team discovered materials more than 50 years old, they would consult with the BLM archaeologist. The archaeologist would assess whether removing any materials older than 50 years is appropriate and what

archeological documentation is required. Removal would include large structures and materials of nonhistorical value such as abandoned automobiles, fences, and buildings, including those built in trespass.

Impacts of route restoration are expected to be less than the communication site due to the limited ground disturbance of restoration techniques and the brief and temporary use of personnel and equipment. The same Applicant proposed measures/design features as described for the communication facility would be followed, except for installation of desert tortoise fencing

Limited pollutant emissions would occur during route restoration, principally from the use of equipment where rehabilitation is taking place, additional vehicle travel by rehabilitation crews, and the surface disturbance caused by the rehabilitation process. Typically, only one or two pieces of equipment would be in use at any one time, and the duration of use would be temporary and brief. Overall, there would be a long-term positive effect to air quality from the reduction of undesignated routes and revegetation of the surface. These actions would reduce particulates introduced to the air through vehicle travel and wind.

Wildlife would benefit from the decrease in vehicle traffic through their habitat. Routes would grow over and reseed, creating new forage and undisturbed habitat. Native vegetation in the restored areas would be allowed to proliferate undisturbed.

Route restoration could result in a perceived limitation on opportunities for motorized vehicle use and related recreational activities. There would be a negligible effect on OHV riding in the restoration areas because the routes that would be restored are undesignated and not legally available for riding on now. The proposed route restoration does not affect the existing legal riding opportunities. There would be positive benefits to travel in the area because the route restoration would clarify the open route network. Open routes provide a sufficient network to access the restoration areas for recreation purposes. The restoration effort would cause the undesignated routes to be less noticeable.

Restoring the surface contour and vegetation cover in the bed and side banks of undesignated routes to a natural contour can improve soil conservation. Steep terrain is particularly vulnerable to losing soil crusts and mineral soils after OHV impact. Decompaction would increase water infiltration and facilitate seed germination. Improving water infiltration also allows burrowing animals, such as ants and rodents, to inhabit the soil again. Decompaction may promote seed germination of nonnative invasive species.

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Attachment E. Other Documents

E1. NEPA Environmental Assessment (2018) and FONSI (2018)

E2. Biological Assessment Desert Tortoise Survey Report (2017)

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Attachment E. Other Documents

E1. NEPA Environmental Assessment (2018) and FONSI (2018)

ENVIRONMENTAL ASSESSMENT

EA #XXXX

ASH HILL COMMUNICATIONS SITE

ENVIRONMENTAL ASSESSMENT

Prepared for:

InterConnect Towers, LLC
27762 Antonio Parkway, L1-471
Ladera Ranch, California 92694

Submitted to:
United States Department of the Interior Bureau of Land Management
Needles Field Office
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February 2018

Amec Foster Wheeler Project No. 175510001.0001

amec foster wheeler

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1.0 INTRODUCTION

1.1 Identifying Information

This Environmental Assessment (EA) has been prepared for the Bureau of Land Management (BLM) to document the potential environmental effects of the Ash Hill Communications Site as proposed by InterConnect Towers, LLC (Applicant or project proponent) in their Right-of-Way (ROW) application. The Proposed Action involves issuing a 0.23-acre communications site use lease and ROW for the construction, operation and maintenance of a multi-carrier communications facility. The requested ROW includes the use of 5.17 miles of primarily existing BLM designated open access routes off Highway 66.

The EA assists the BLM in project planning and ensuring compliance with National Environmental Policy Act (NEPA), and in compliance with other laws and policies affecting the alternatives. As required under NEPA, the EA analyzes a Proposed Action and a reasonable range of alternatives.

1.2 Background

On September 23, 2011 the BLM Needles Field Office provided a Decision Record to the Applicant approving the construction, operation, maintenance and decommissioning of a multi-carrier communication site facility on approximately 6.255 acres of public land east of Ludlow California (BLM, 2011a). The approved communication site (approximately 0.207 acres of the larger 6.255-acre ROW) consisted of a typical 80-foot tall steel monopole signal tower, four small communication equipment buildings, five 1,000-gallon propane tanks and two 35kW generators situated on a 34ft^2 concrete pad. The 0.207-acre facility would have been gated and enclosed by chain-link fencing. The approved project also included the use of a temporary 100ft^2 staging area (0.230 aces) and the use of an existing access road of 17,088 feet or 3.236 miles in length by 20 feet in width of which 13,172 feet or 2.495 miles was situated on public lands (6.048 acres) but also crossed through two parcels of private land. The 2011 project was analyzed in Environmental Assessment DOI-BLM-CA-2011-0015-EA (BLM, 2011b).

Since the issuance of the Decision Record, the type and height of the tower, size and location of the proposed lease area, site electrical power source, and access route has changed. The original tower associated with the communication site was an 80-foot monopole. The project proponent now proposes to construct a 196-foot free standing, lattice communication tower to accommodate multi-tenant wireless communication facilities. The taller tower was necessary to provide better coverage to the service area. Because of the taller tower, a slightly larger area for the communication site (0.230 vs 0.207 acres) is needed. The location of the communication site has also been moved 253-feet to provide the necessary set back from Interstate 40 (I-40). In addition, electric power to the site would be provided primarily by a photovoltaic solar array structure with propane powered generators for back-up power, as opposed to the previously proposed use of only propane powered generators. Finally, the project proposes a different primary access road than originally approved. The route approved in the 2011 Decision Record was approximately 3.236 miles long. The new proposed primary access route is approximately 5.17 miles long. This

access route primarily utilizes a series of existing BLM designated open access routes off of U.S. Route 66 whereas the previously approved access route used a combination of public and private property. The new access route is fully described in Section 2.3 *Proposed Action*. No substantial improvements (i.e. widening) of access routes would be required.

On September 14, 2016 the BLM approved its Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment (LUPA) to the California Desert Conservation Area Plan (CDCA) of 1980, as amended. The LUPA represents the public-lands component of the DRECP, identifying areas appropriate for renewable energy development as well as areas important for environmental conservation (BLM, 2016). The Proposed Action is located within the boundaries of the DRECP LUPA.

On February 12, 2016 a Presidential Proclamation was signed that established the Mojave Trails National Monument (MTNM). The monument will protect irreplaceable historic resources including ancient Native American trading routes, World War II-era training camps, and the longest remaining undeveloped stretch of Route 66. The Proposed Action lies approximately 340' southerly of the eastbound I-40 ROW and just within the northerly boundary of the MTNM.

1.3 Location

The proposed location for the Proposed Action lies approximately 7.8 Miles easterly of the community of Ludlow, California, just southerly of the I-40 ROW. The project location is in the NW1/4 of Section 11, Township 7N, Range 9E, San Bernardino Meridian. The legal description of each project component is:

Communication Site: T. 7 N., R. 9 E., Sec. 11, Portion of SW1/4NW1/4.

Access Route: T. 7 N., R. 9 E.,

Sec. 26, Portion of NW1/4NW1/4;

Sec. 23, Portions of S1/2, SE1/4NE1/4;

Sec. 24, Portion of the NW1/4;

Sec. 13, Portions of the SE1/4, W1/2NE1/4;

Sec 12, Portions of the W1/2, SW1/4;

Sec 11, Portion of the N1/2;

Sec. 10, Portion of the E1/2NE1/4.

1.4 Purpose and Need and Decision to be Made

1.4.1 BLM Purpose and Need

The BLM's purpose is to respond to the Applicant's request for a ROW grant for the proposed construction, operation, maintenance and decommissioning of the Ash Hill Communication Site to provide improved, consistent, and reliable communication capability along a specific underserved area on I-40. The need for the BLM's action arises from the Federal Land Policy and Management Act of 1976 (FLPMA), which establishes a multiple-use mandate for management of federal lands, including systems for transmission or reception of electronic signals for communication, as outlined in Title V of the FLPMA. The BLM's action in considering the Applicant's ROW application is provided under the authority of the Secretary of the Interior to grant, issue, or renew rights-of-way for systems "for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, and other means of communication" (43 U.S.C. 1761).

This Proposed Action would, if approved, assist the BLM in addressing the management objectives in:

- Executive Order (E.O.) No. 13807 issued on August 15, 2017, "Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects" creates a framework to ensure the permitting process for infrastructure projects, is "coordinated, predictable, and transparent." The order defines "infrastructure project" as a project to develop the public and private physical assets that are designed to provide or support services to the general public in numerous sectors, including broadband internet (Trump, 2017).
- Executive Order No. 13616, issued on June 12, 2012, "Accelerating Broadband Infrastructure Deployment," to facilitate wired and wireless broadband infrastructure deployment on Federal lands, buildings, and ROW, federally assisted highways, and tribal and individual Indian trust lands, particularly in underserved communities (Obama, 2012).
- Public Law 112-96, signed on February 22, 2012 as the "Middle Class Tax Relief and Job Creation Act of 2012", created the First Responder Network Authority (FirstNet). FirstNet is assigned the mission to build, operate and maintain the first high-speed, nationwide wireless broadband network dedicated to public safety. FirstNet will provide a single interoperable platform for emergency and daily public safety communications (US Congress, 2012).

1.4.2 Project Applicant's Objective for Use of Federal Lands

The Applicant's purpose of the Proposed Action is to construct a multi- tenant wireless communication site that would respond to the wireless telecommunication providers need to provide improved, consistent, and reliable communication capability along the following portions of an underserved wireless traffic corridor on I-40:

- 4 miles westerly and 6 miles easterly along I-40;
- 3 miles southerly to over portions of U.S. Route 66 (National Trails Highway).

The Proposed Action would provide contiguous communications coverage in this area.

The Proposed Action expands the existing wireless telecommunication network currently existing along the I-40 transportation route and solves signal weakness allowing for five bars of service. The Proposed Action would support the continued relay and expansion of microwave and wireless communication signal transmission from the South Ludlow Communication Site to the west and the East of Siberia Communication Site to the east. The Proposed Action provides a solution to the terrain blockage between the line-of-site signal transmission of the existing communication sites.

The proposed multi-tenant wireless communication site would provide benefit to the BLM and law enforcement agencies by providing maximum signal coverage for law enforcement and first responder activities. The proposed facility would further have available capacity to co-locate communication equipment specific to first-responder agencies and federal enforcement agencies.

The proposed communication site has been identified as a high-priority site based on interaction and feedback from both the public, but also, more importantly the Emergency Response and Law Enforcement Agencies that are charged with managing and responding to the needs of people and traffic along I-40. The proposed project site location is strategically placed as determined by the local environmental constraints, engineered RF coverage and wireless service providers interest. The proposed project site location is favorable based on its proximity to existing access roads and previously disturbed lands.

1.4.3 Decision to Be Made

The BLM will use the results of the effects analyses in this EA to make an informed decision to approve, approve with modifications or conditions, or disapprove the Applicant's request for a ROW grant to construct, operate, maintain, and decommission a communication site on BLM-administered lands, consistent with applicable land use plans and regulations.

The BLM may include any terms, conditions, and stipulations it determines to be in the public interest and may include modifying the proposed use or changing the route or location of the proposed facilities (43 CFR 2805.10(a)(1)). In the decision process, the BLM must consider how the BLM's resource management goals, objectives, opportunities, and/or conflicts relate to this non-federal use of public lands.

1.5 Tiering to Existing Environmental Assessment

This EA is tiered to the Interconnect Towers LLC Ash Hill Communication Site EA (DOI-BLM-CA-2011-0015-EA) approved September 23, 2011. Tiering helps focus the EA more sharply on the important issues related to tower design change, new access route, and the Special Use Designations overlay while relying on the original Ash Hill Communication Site EA analysis for

background. Analysis of environmental issues previously considered and addressed in the Ash Hill Communication Site EA (DOI-BLM-CA-2011-0015-EA) are incorporated by reference. The site-specific impacts to resources and resource uses analyzed in 2011 as well as those that are incorporated by reference and will not be analyzed in detail, are identified in Chapter 3 of the EA.

1.6 Scoping and Issues

1.6.1 Internal Scoping

Scoping conducted during the development of the 2011 Environmental Analysis, DOI-BLM-CA-D090-2011-0015-EA, resulted in no comment from the public, tribes, or special interest groups.

Additional internal scoping initiated on November 16, 2016, by an interdisciplinary team (IDT) to address changes to the original Proposed Action and to identify issues, appropriate alternatives, potential public interest and the appropriate level of analysis. The internal scoping process identified Special Use Designation as an issue that needed to be identified and analyzed in the EA.

1.6.2 External Scoping

Although the BLM received no comments during the 2011 Environmental Analysis, DOI-BLM-CA-D090-2011-0015-EA, the IDT determined that because of recent changes in land status designations and the previously approved Proposed Action, additional NEPA analysis would be required.

1.6.3 Issues Not Addressed in Previous EA

- *What is the impact to the utility corridor?*
- *What is the impact to the Bristol Mountains Area of Critical Environmental Concern (ACEC)?*
- *What is the impact to the Mojave Trails National Monument?*
- *What impact does a new access route have on Section 106 Consultation?*
- *What impact does a new access route have on Section 7 Consultation?*
- *What impact does a taller tower have on visual effects?*
- *What impact does a taller tower have on health and safety of the I-40?*

1.7 Conformance Summary

1.7.1 California Desert Conservation Area Plan

The Proposed Action is subject to and in conformance with the California Desert Conservation Area Management Plan (CDCA) of 1980, as amended, in accordance with Title 43 Code of Federal Regulations 1610.5-3. Although the management plan does not specifically provide for

this communication site, the management plan was amended in 1982 to provide for greater flexibility in choosing site locations to allow for changes in technology of communication site construction and needs since most sites are self-contained, small, and unobtrusive.

The CDCA identifies utility corridors designated to address the use of public lands for new linear electrical transmission lines 161kV or greater, pipelines with diameters 12 inches and greater, major aqueducts or canals, and coaxial cables for interstate communications. The Proposed Action is located within one of these corridors (Utility Corridor G). Since the CDCA was amended in 1982, wireless telecommunication has replaced coaxial cable for interstate communications. Although the use of a corridor for long distance microwave communication towers was not envisioned, it is supportive to the specific scope of the corridors which is to address the expansion of utility facilities constructed for the purpose of telecommunications, electricity, gas, water and other commodities.

1.7.1.1 Desert Renewable Energy Conservation Plan

The Proposed Action is within the boundary of the Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment (LUPA) to the CDCA of 1980, as amended. The Proposed Action is not located within a Development Focus Area (DFA) or Special Recreation Management Area (SRMA)/Extensive Recreation Management Area (ERMA). The Proposed Action is located within California Desert National Conservation Lands (NCL) and the Bristol Mountains Area of Critical Environmental Concern (ACEC). The disturbance caps within the NCL and ACEC are 1.0 percent (%) and 0.5%, respectively. In situations where a project is within both an NCL and ACEC, the more restrictive ground disturbance cap applies. The ground disturbance cap is a limitation on ground disturbing activities and cumulatively considers past, present, and future ground disturbance. At this time, the BLM has determined the baseline ground disturbance for the ACEC and NCL is 1.4%, and exceeds the ground disturbance cap. Thus, to mitigate for impacts to the ground disturbance cap by the development of the communication lease area and use of an existing undesignated route for access, ground disturbance will be mitigated at a ratio of 3:1, for a total of 1.23 acres. See Section 3.1.8.2 for a description of the ground disturbance mitigation to be implemented.

Management direction for the ACEC allows for new land use authorizations to be analyzed on a case-by-case basis to assess whether they are compatible with the ACEC and its management goals. The overarching goal of the ACEC is to, “protect biological values, including habitat quality, populations of sensitive species, and landscape connectivity while providing for compatible public uses.” No land use authorizations that may impair wildlife connectivity will be approved in the ACEC. In line with these goals and disturbance caps, the Proposed Action utilizes primarily previously authorized disturbed areas for access and proposes no new ground disturbance aside from that created by development of the communication lease area and by continued vehicular access and hauling of construction equipment to the proposed communication tower site, as well as limited, necessary road repairs of a 300-foot stretch of route NS0017 located 100 feet northeast of the Atchison, Topeka & Santa Fe railroad alignment. Also, light smoothing of routes NS0017 and NS0003 may be necessary following heavy rains. The Proposed Action would primarily utilize existing designated open routes and areas within existing ground disturbance. The area of the

communication site and the surrounding areas have been heavily disturbed by apparent construction and surface grading possibly associated with the previous railway, highway and material site activities. In addition, little to no vegetation occurs in the area of the proposed communication lease area resulting in no significant impacts to habitats. Furthermore, because no habitat components would be lost, no significant reduction in any affected territory or wildlife corridor would occur. Thus, the Proposed Action is consistent with and supportive of the goals of the ACEC and DRECP.

1.7.2 Mojave Trails National Monument

On February 12, 2016, a Presidential Proclamation was signed that established the MTNM. The Proposed Action lies approximately 340' southerly of the eastbound I-40 ROW and just within the northerly boundary of the MTNM. Per the Presidential Proclamation, "The MTNM contains the longest remaining undeveloped stretch of Route 66, offering spectacular and serene desert vistas and a glimpse into what travelers experienced during the peak of the route's popularity in the mid-20th century" (Obama, 2016).

The MTNM allows for new telecommunications facilities to be constructed within the monument to the extent consistent with the care and management of the objects identified in the proclamation that are situated within the MTNM. Such objects include archaeological resources, paleontological resources, sensitive biological resources and Historic Route 66. The proposed communication tower would serve as an expansion to the existing telecommunications network along the I-40 travel corridor and provide intensified wireless coverage to the portion of Route 66 exiting the I-40 travel corridor into the MTNM.

The Proposed Action would primarily utilize previous ground disturbance areas and existing roads with no new ground disturbance aside from that created by development of the communication lease area and continued vehicular access and hauling of construction equipment to the proposed communication tower site, as well as limited, necessary road repairs of a 300-foot stretch of route NS0017 located 100 feet northeast of the Atchison, Topeka & Santa Fe railroad alignment. Also, light smoothing of routes NS0017 and NS0003 may be necessary following heavy rains. The project will not result in impacts to rare plants species, endangered bird species, fragile desert fish species, native mammal species or amphibians. However, the project may result in impacts to Desert Tortoise. Applicant Proposed Measures/Design Features have been incorporated into the Proposed Action to reduce the potential for impacts to the species. No cultural or paleontological resources are located within the project site and will not be impacted by the construction of the proposed communication tower. In addition, the tower is not visible from Historic Route 66 and will therefore not impact views. Travelers along Route 66 will still be able to experience the spectacular and serene desert vistas and would be able to get a glimpse into what travelers experienced during the peak of the route's popularity in the mid-20th century. Therefore, the proposed action is consistent with and supportive of the goals of the MTNM.

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2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Summary of Alternatives

Two alternatives are evaluated in this EA. The first alternative is the No-Action Alternative. The second alternative is the Proposed Action.

2.2 No-Action Alternative

Under the No-Action Alternative, the BLM would take no action to approve the application for a multi-tenant communication site and ancillary components. The specific I-40 corridor would continue to have insufficient wireless communication coverage over a significant portion of the Interstate. The subject area would continue to be managed within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality [43 U.S.C. 1781 (b)] in conformance with applicable statutes, regulations, policy and land use plans.

2.3 Proposed Action

The Proposed Action involves issuing a 0.23-acre communications site use lease and ROW grant for the construction, operation, and maintenance of a multi-tenant communication facility and ancillary components on BLM-administered land. The project site lies approximately 7.8 miles easterly of the community of Ludlow, California just southerly of I-40.

The requested ROW would include the components and affected acreage as follows:

- A 10,000 square feet (SF) ROW for the multi-tenant wireless communications site.
- Access via primarily open access routes utilizing U.S. Route 66 to route NS0017 (3.53 miles) to route NS0003 (1.64 miles) to the project site for a total of approximately 5.17 miles.

Table 2-1. Right-of-Way Acreage

Project Component	Permanent (acres)	Previously Disturbed (acres)	New Disturbance (acres)
Lease Area	0.23	0	0.23
Proposed Access Road	8.70	8.52	0.18
TOTAL	**8.93**		**0.41**

Disturbance associated with the proposed project is primarily within previously authorized disturbed areas.

The Applicant has proposed the following site infrastructure to be installed at the project site:

- A single 3-legged 196' freestanding, self-supporting lattice communication tower on top of a 21' triangular base and a 28' x 28' concrete foundation;
- A 20' x 40' square foot equipment building to accommodate up to 6 tenants;
- 3 - 15' x 40' square foot solar arrays;
- 2 - 100 Kw propane generators;
- 3 - 2,000-gallon propane tanks;
- A 12.5' wide entrance gate would be placed at the southerly line of the lease site; and
- A chain link fence (Motorola R56 Design Standard or equivalent) measuring 8-10 feet in height, with three strands of barbed wire on the top, bringing the total height of the fencing to 9-11 feet around the lease area perimeter. Galvanized hardware mesh of one-inch by two-inch dimensions would be attached to the lower 18 inches of the chain-link fencing and buried to a 12-inch depth, in accordance with standard specifications for fencing in desert tortoise habitat.

See Figure 2-1 for a regional map; Figure 2-2 for a site plan; and Figure 2-3 for an image of the existing conditions at the proposed communication site.

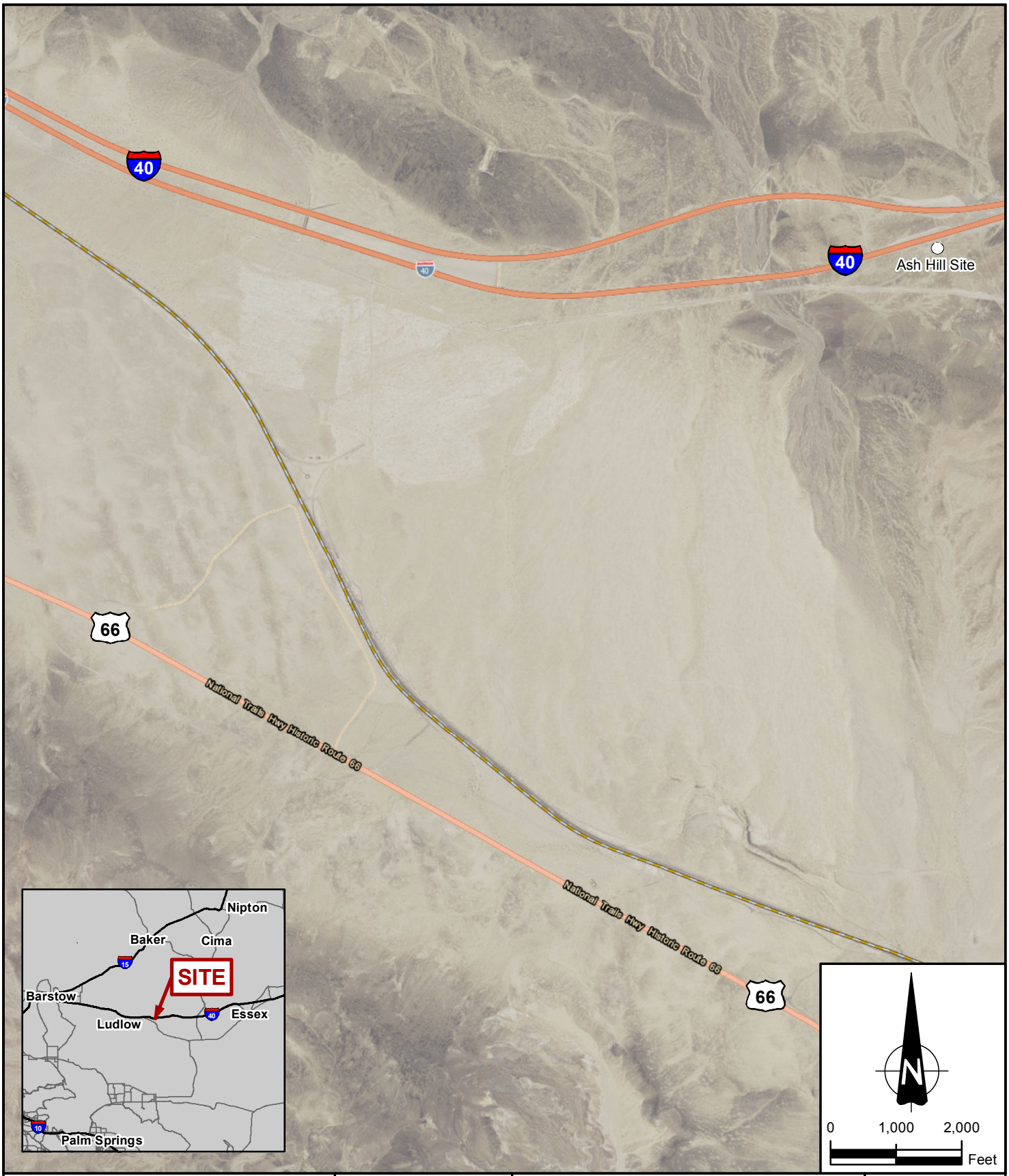
2.3.1 Proposed Components Overview

The proposed communication facility would meet Motorola R56 Design Standards or equivalent and be comprised of three principal components: 1) communication tower; 2) equipment shelter and supporting components; and 3) access road;. Additional information about each of these components is provided below.

2.3.1.1 Communication Tower

The tower would be a self-supporting, three-legged, lattice-type style structure, and would be 196 feet in height. The tower would serve as the structure upon which the communication equipment would be mounted. The tower would be placed upon a concrete slab foundation, and would consist of either cast-in-place caissons or shallow foundations designed to carry axial loads and moments of force applied by wind and other factors on the tower. The tower, foundations, and all other structures on the site would be built to professional standards and applicable building codes. Soil tests and other investigations would be performed within the location of the proposed facility to determine the specific foundation requirements.

The structural members and bracing units of the tower would be constructed of industry-standard galvanized steel with a silver-gray color tone in conformance with the Applicant-proposed visual resource measures that require non-reflective metal surfaces and tones to reduce glare. A grounding system would also be installed. The types of communication equipment installed on the tower would be similar for the carriers housed at the site and would vary only with the equipment requirements for their specific systems. All systems will generally include a rectangular antenna array, omni antennas, and microwave dishes.



INTERCONNECT TOWERS LLC	amec foster wheeler	ASH HILL COMMUNICATIONS SITE	DATE: MAY 2017
			SCALE: 1 " = 2,000 feet
Amec Foster Wheeler Environment & Infrastructure, Inc. 9177 Sky Park Court San Diego, CA 92123		SITE VICINITY MAP	PROJECT NO.: 175510001
			FIGURE: 2-1

DRAWN BY: SD CHECKED BY: ED

K:\AMEC US OFFICES\Santa Barbara\175510001_0001 - Ash_Hill\Figure 2-1 - Site Vicinity Map.mxd - patrick.mccarthy - 5/24/2017 - 11:42:54 AM

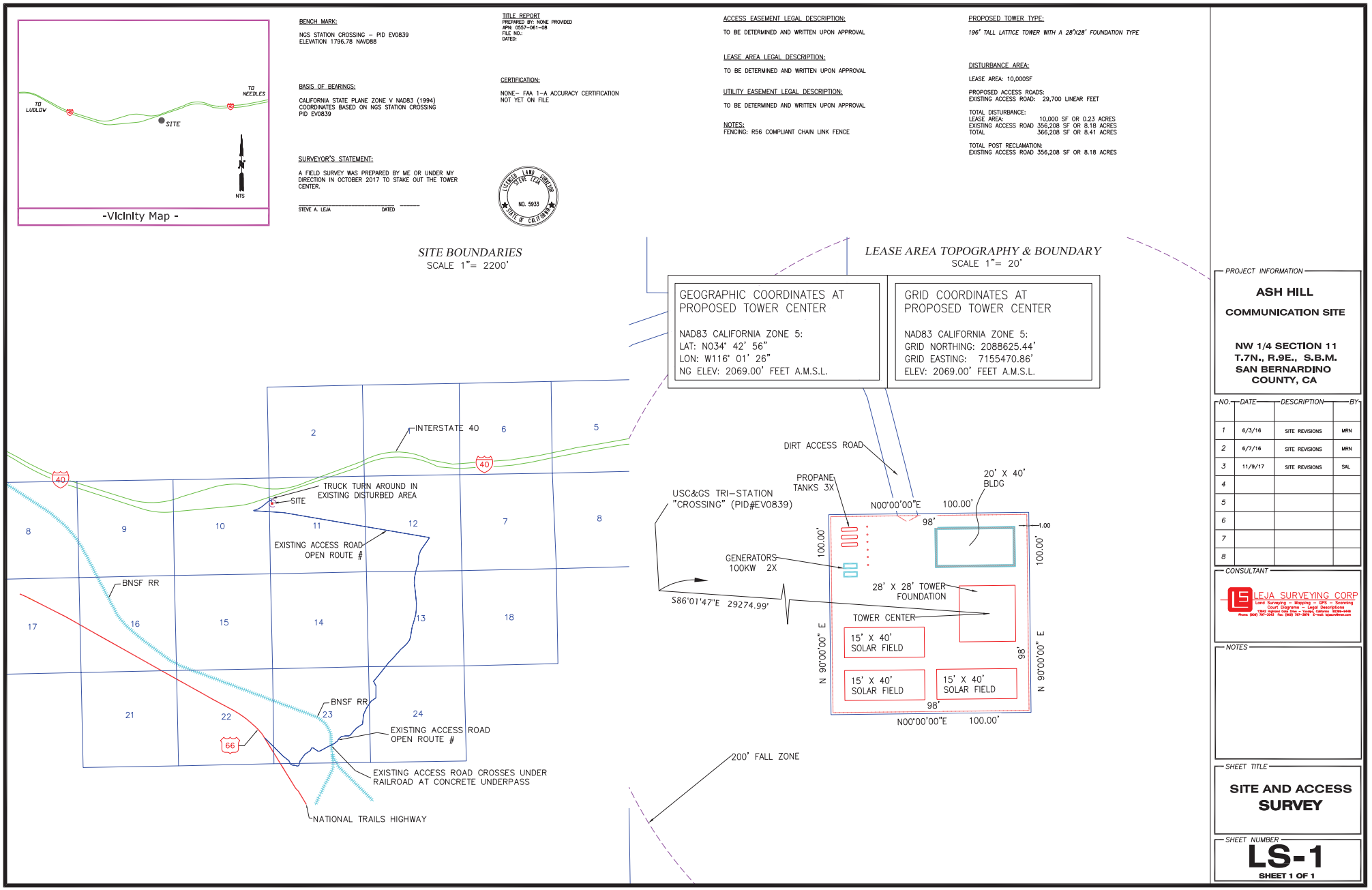


Figure 2-2. Site Plan

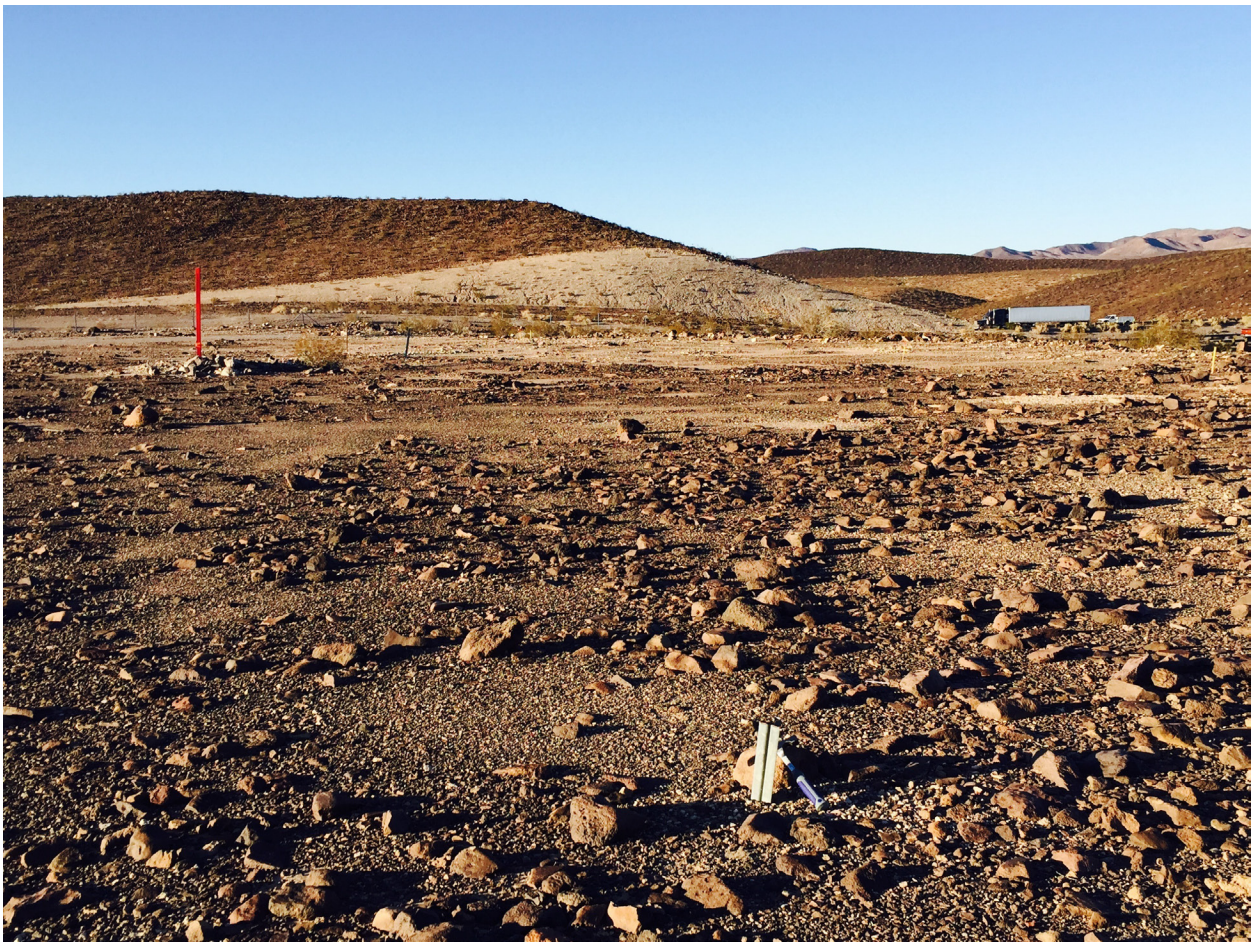


Figure 2-3. Existing Site Condition

2.3.1.2 Equipment Shelter and Supporting Components

The site would include an equipment shelter adjacent to the tower to house interior communication equipment. The shelter would likely be a 20-foot by 40-foot slab block building that would be constructed onsite. Alternately, the shelter could be an assemblage of smaller industry standard prefabricated units or equipment cabinets brought by truck and installed onsite. Regardless of construction method, the structure(s) would be mounted on a concrete foundation sized according to structure dimensions and other design requirements. The shelter would be divided into two or more interior compartments or rooms depending upon carrier requirements. The shelter would include an environmental control system for heating, ventilation, and air conditioning (HVAC) to keep the interior of the shelter within the temperature range required for the operation of the electronic communication equipment inside. Alternately, a three or four-sided Applicant provided open air shelter would be constructed.

Electrical power to the project site would be provided by up to three 15-foot by 40-foot photovoltaic solar array. The panels would be approximately 8 feet in height on the south side angling to 15' high along the north edge of the solar panels. Electronic equipment would be installed within a series of weatherproof cabinets located beneath the solar panels. The compound would also include up to two 100 kW standby generators located outside of the equipment shelter and mounted on a concrete pad. The generators would provide electric power in the event of failure of grid power or during periods of high electric power consumption. The generators would be powered by propane fed by up to three 2,000-gallon steel tanks located adjacent to the shelter. The generators would include mufflers on the power units to minimize noise.

The communication site facility would be enclosed within a Motorola R56 Design Standard chain-link fence or equivalent measuring 8-10 feet in height, with three strands of barbed wire on the top, bringing the total height of the fencing to 9-11 feet. Galvanized hardware mesh of 1-inch by 2-inch dimensions would be attached to the lower 18 inches of the chain-link fencing and buried to a 12-inch depth or bent outward and secured to the ground. A gate would provide access into the compound for persons and vehicles. A downward-shielded security light would be mounted within the compound and would be activated by a motion sensor.

2.3.1.3 Access Road

The access route would primarily utilize a series of existing BLM designated open access routes off of U.S. Route 66 The access route would utilize U.S. Route 66 to route NS0017 (3.53 miles) to route NS0003 (1.64 miles) to the project site for a total of approximately 5.17 miles. The section of access route off of NS0003 leading to the communication facility utilizes previously disturbed land but is considered unauthorized disturbance by the BLM because that section of route has not been previously authorized with a ROW or designated as an open route. Figure 2-2 shows the location of the proposed access route. The previously approved access route crossed through private property. The project now proposes to avoid private land by utilizing existing open access routes exclusively on BLM public land.

The access routes are currently of adequate width for the site access road and would not require significant improvement (i.e., no widening) to construct the communication site. Any minor grading proposed would be performed to smooth out the existing dirt road similar to road maintenance following heavy rains. No new disturbances will occur aside from that created by continued vehicular access and hauling construction equipment to the proposed communication tower site, as well as limited, necessary road repairs of a 300-foot stretch of route NS0017 located 100 feet northeast of the Atchison, Topeka & Santa Fe railroad alignment. Also, light smoothing of routes NS0017 and NS0003 may be necessary following heavy rains. Desert tortoise exclusionary fencing would not be installed along access road segments.

2.3.1.4 Communication Site Construction

Prior to construction of the communication site, the soils and substrate at the site would be sampled and tested to assist in tower foundation design. Typically, a mobile boring machine would be utilized to bore a number of six- to eight-inch diameter holes using a hollow boring auger. These tests would be conducted only within the area of the proposed project footprint. Soils density tests would be performed at specified levels and samples would be collected for laboratory analysis. This information would be used to determine the tower foundation designs and methods of construction. The holes would be backfilled immediately following the drilling and analysis processes, and prior to moving to the next boring location.

Construction at the communication site would proceed with site preparation and grading occurring first, followed by excavation for tower footings and equipment slabs. Site grading and clearing would be required for construction. The soil type throughout is gravel-rock based. Any disturbed soils would be evenly spread throughout the project site. No borrow material would be utilized. The tower site would be leveled using earthmoving equipment such as a bulldozer and then the excavation for the tower foundation would proceed. Small foundations for the shelter/building/solar pad would be excavated. Rebar for the foundation footings would be installed and the anchor bolts for the tower/building/solar mounts would be placed. The concrete foundation would be poured in a single day for both the tower and building/solar pad. It is anticipated that the site would be accessible by concrete trucks so that premixed concrete could be delivered directly to the site. Should this prove to be infeasible, a batch concrete mixing station would be located onsite with water provided by a water truck.

Following placement of necessary foundations, the tower would be erected. The use of helicopters would not be required, and no additional temporary access would be required. The tower would be constructed in the site compound in 20' sections. All assembly would consist of sections brought to the tower site and stacked in a single day. The shelter/solar and supporting components would be constructed in place. Upon completion of the shelter/solar, internal and external equipment would be installed. Propane tanks and generators would be mounted on concrete-bermed foundations to contain spills or leaks that could occur during operation, fuel replenishment, and maintenance.

The communication site facility would be enclosed within a Motorola R56 Design Standard chain-link fence or equivalent measuring 8-10 feet in height, with three strands of barbed wire on the

top, bringing the total height of the fencing to 9-11 feet. Galvanized hardware mesh of 1-inch by 2-inch dimensions would be attached to the lower 18 inches of the chain-link fencing and buried to a 12-inch depth or bent outward and secured to the ground. A gate would provide access into the compound for persons and vehicles. A downward-shielded security light would be mounted within the compound and would be activated by a motion sensor.

Construction equipment to be used onsite would vary based upon the type of work currently underway, but equipment would likely be confined to that listed below in Table 2-2. All of the equipment listed in the table might not be necessary, nor would it all be operating at the same time.

Table 2-2. Construction Equipment

Equipment Type	Quantity
Excavator	1
Mini Excavator	1
Tractors/Loaders/Backhoes	1
Bulldozer	1
Grader	1
Water Truck	1
Cement/Mortar Mixers	2
Crane	1
Forklift	1
Portable Generator	1
Pickups and other light/medium duty road vehicles	4

Vehicle speeds would be limited to 15 mph on the access road to reduce fugitive dust generation, but the road would not be wetted during construction. No vehicular travel would be permitted along the access road during excessively wet road conditions where rutting or other road damage could occur from vehicle use. It is expected that the site would take 45 days to construct. This time period could vary depending on the difficulty of construction, availability of work crews, and other factors. The number of workers at the site on any given day during construction would typically vary between four and six. Following completion of the construction process, all debris and waste materials would be removed from the site and disposed of at an approved facility in accordance with applicable regulations.

2.3.1.5 Applicant Proposed Measures/Design Features

The Applicant has proposed a number of measures/design features, which will be implemented as part of the Proposed Action, to avoid and minimize potential impacts to the environment during construction and operation. Applicant Proposed Measures/Design Features are provided in Appendix A of this EA.

2.3.1.6 Operation and Maintenance

Following construction, the facility would operate 24 hours a day, 7 days a week for the duration of the lease period. The electronic equipment housed in the equipment cabinets would be temperature controlled by wall-mounted HVAC units. During warmer periods of the year, the cooling units could periodically be in operation 24 hours a day.

Maintenance activities at the site would consist of monthly visits by technicians associated with each of the carriers with equipment at the site. While the number of site visits would vary depending upon specific maintenance requirements and other activities, the number of separate visits would likely be between six to ten visits per month, though this number could be greater and more frequent during the initial installation of carrier equipment. Workers would typically arrive in crews of one to three persons in standard road vehicles. A typical monthly visit could be concluded in as little as an hour but could extend to a full day or multiple days depending upon the task being undertaken.

The on-site generators would typically run part- time and switch over automatically once per week, or more frequently to ensure the maintenance of adequate lubrication within the units and to test them for proper operation. The units would be equipped with sensors to report their operational status, and in the event of a fault, a technician would be dispatched to conduct repairs.

Refills of the propane fuel for the generators would require periodic visits by a fuel delivery truck. Fuel levels would be monitored by a remote system, and refills would occur as needed, probably once monthly. A prolonged power outage would necessarily require more frequent visits.

The access road could require occasional maintenance intermittently based on usage and storm events. Routine maintenance activities would be limited to minor smoothing using a front-end loader or grader during dry conditions. The access road would maintain its current width, so no road widening would occur during facility operations.

2.3.1.7 Decommissioning and Restoration

Upon termination of the ROW grant, the Applicant would restore, under the direction of the BLM, the communication site and access road as close to its original condition as possible. This would entail the following procedures:

- All structures, tower, fencing and buildings would be deconstructed and removed from the communication site;

- Any cement foundations would be covered over with local soils from within the compound;
- Any access gates for the project site would be removed;
- Revegetation would be allowed to occur naturally to blend with the surrounding area.

2.4 Alternatives Considered But Not Analyzed in Detail

Multiple existing wireless facilities were studied and evaluated where appropriate.

The existing Burlington Northern Santa Fe (BNSF) Railroad Tower is located 1.93 miles from the proposed project site. It is currently 240 feet tall and is located on ground elevation too low (1,947') to fulfill the signal transmission needs identified for improving cellular communication capability along this segment of I-40 due to the surrounding terrain at 2,177' near the Applicants proposed tower location. The height of the existing tower precludes the tower from covering the terrain to provide adequate coverage to the area. In addition, the tower does not have the structural integrity required to withstand the equipment required by the multi-carrier tenants.

The existing Western States Critical Care Air Transportation Team (CCATT) Communication site is located just south of the small town of Ludlow California and covers intermittent portions of the 6 mile stretch of I-40. This communication site was built when the use of analog signals was prevalent and could more easily penetrate mountainous terrain. With the use of digital signals, the location and distance of this existing site does not provide coverage to the east where the Applicants location covers 6 to 7 miles of I-40.

The existing America Tower Corporation, "East of Siberia" Communication Site permitted and built by the Applicant, is located approximately 9 miles east of the proposed project site. Based on the distance of this site and the topographic features surrounding that site and also the proposed project site, the East of Siberia site is only providing intermittent coverage and is terrain blocked near the proposed tower location all the way east for about 4 miles. The proposed project site provides coverage and expanded capacity to the underserved areas of I-40.

Existing communication sites in the general area of the project site could not be utilized by the tenant carriers to provide the coverage needed with the project area. It was found both necessary and feasible to add to the existing communication network with a new facility, to improve coverage, provide coverage and strength communication network capacity for subscribers. Furthermore, there is no private land in the vicinity, that is not terrain blocked, based on the rural location of the proposed project site.

Based upon the above information, the alternatives analyzed in this EA are restricted to the No Action Alternative and the Proposed Action Alternative.

3.0 ENVIRONMENTAL ANALYSIS

This chapter presents both the affected environment and environmental consequences, by resource, for each alternative. This section focuses the impacts related to the project changes and includes a brief summary of the more general descriptions of resources and impact analysis from the 2011 Ash Hill Communication Site EA that are incorporate by reference. Potentially affected resources include air quality, biological resources (including special status species, migratory birds, and invasive species), cultural resources, hazardous materials and solid wastes, health and safety, land use, paleontology, socioeconomic and environmental justice, special use designations, surface and groundwater, visual resources, and wilderness.

3.1 Proposed Project

3.1.1 Air Quality

The previous 2011 Ash Hill Communication Site EA (DOI-BLM-CA-2011-0015-EA) concluded that minor soil disturbance expected during construction work would result in surfaces susceptible to accelerated wind erosion, which would contribute to the area's PM-10 emissions. Low levels of other emissions would also be expected from generator use and propane delivery associated with site operations and maintenance. These emissions, as well as those associated with site construction, are unlikely to exceed *deminimus* emission levels and no further conformity determination is considered necessary. The revised Proposed Action will result in the same or less construction emissions, generator use and propane delivery. Therefore, no additional analysis is required.

3.1.2 Biological Resources

The previous 2011 Ash Hill Communication Site EA (DOI-BLM-CA-2011-0015-EA) concluded that little vegetation occurs where the proposed communication site construction activity would occur, impacts to this resource resulting from surface grading, vehicle staging and temporary material storage would be negligible. The revised project proposes a 0.23-acre lease area compare to 0.207- acres. The .023 acres required is currently disturbed and lacking vegetation. The new 196-foot tower would be constructed within the lease area. No cacti, succulent plants, yucca species or any State of California regulated/protected plant species are known to occur in the area proposed for surface disturbance associated with the communication site. No perennial plant species are expected to be impacted by the Proposed Action in this locale.

An updated Biological Resource Assessment and Desert Tortoise Focused Survey Report was prepared in December 2017 to address the new access route for the communication site (Amec Foster Wheeler 2017). Extensive previous surface disturbance has removed most vegetation from the proposed access route. The less utilized portions of the access route, south of the gas pipeline road/NS0003, contain some vegetation. However, no yuccas, trees, cacti, special status, or succulent plants are expected to be impacted as the project activities will be confined to the

existing access roads and the disturbed project site (Amec Foster Wheeler 2017). Therefore, no impact will occur, and no habitat mitigation is required.

Although the proposed access route offers little in the way of wildlife habitat, the routes are surrounded by a largely undisturbed native plant community which provides habitat for a variety of terrestrial and avian species. Little to no wildlife impacts are expected relative to surface disturbance and construction activities proposed for the project as very little vegetative cover and available habitat would be affected in the proposed construction zone. Small mammals and reptiles are unlikely to be significantly affected by the proposed action; as little if any vegetation, burrows or habitat components which this fauna may be dependent on would be removed or disturbed. Larger mammals are also not expected to be affected by the proposed action; as little or no habitat components would be lost. Therefore, no significant reduction of any territory or wildlife corridor would occur.

The previous EA identified that the affected area is located outside of habitat designated as critical for this listed population, in an area not previously characterized as tortoise habitat (BLM 1989). However, a small area of previously characterized BLM-Category III tortoise habitat occurs several miles southeast of the affected area (BLM 2002b). The general affected area has also been modeled by the U.S. Geological Survey as likely suitable tortoise habitat (USFWS 2008). No tortoise sign was noted during the 2010 tortoise survey effort. The previous EA concluded that no habitat considered suitable for the state and federally listed threatened tortoise would be lost as a result of the Proposed Action.

Surveys conducted in 2017 observed very recent signs of the desert tortoise such as the detection of fresh tracks as well as carcasses, burrows, and scat showing that the area is still occupied by the species along the proposed access route (Amec Foster Wheeler 2017). Although impediments to tortoise movement exist in the area, they do not prevent the potential for tortoise travel onto the proposed access road and communication site. Should tortoises occur on the access road or communication site during construction, equipment delivery, or road maintenance activities, potential exists for them to be adversely affected. Applicant Proposed Measures/Design Features are incorporated into the proposed project to reduce potential impacts to desert tortoises.

The proposed project will not result in new impacts to Biological Resources that were not previously analyzed in the 2011 EA. Therefore, no additional analysis is required.

3.1.3 Cultural Resources

The Class III archeological survey previously conducted for the 2011 Ash Hill Communication Site EA (DOI-BLM-CA-2011-0015-EA) identified two new cultural resources (historic) and one isolated find (historic) along a portion of the previously approved access route. These cultural resources would have been easily avoided during proposed project activities and they were not eligible for nomination to the National Register of Historic Places (NRHP). These cultural resources would be avoided since the access route has changed.

A Class III archaeological field survey conducted in November 2017 for the new proposed access route identified four new isolated cultural resources (prehistoric and historic) and one assumed historic property (SITE-001) in the Area of Potential Effect. SITE-001 consists of a railroad berm and associated bridge abutment and pilings associated with the historic Atchison, Topeka and Santa Fe Railroad. Based on the initial eligibility evaluations and other previously recorded segments of the railroad, Site-001 is assumed to be eligible for listing on the National Register of Historic Places. The isolates, however, do not qualify as Historic Properties and are not recommended for listing.

The Proposed Action would primarily utilize previous disturbed areas and existing access routes with no new ground disturbance aside from that created by continued vehicular access and hauling construction equipment to the proposed communication tower site, as well as limited, necessary road repairs of a 300-foot stretch of route NS0017 located 100 feet northeast of the Atchison, Topeka & Santa Fe railroad alignment. Also, light smoothing of routes NS0017 and NS0003 may be necessary following heavy rains. No impacts to cultural resources are anticipated because the Proposed Action does not alter SITE-001 or the isolates in any way. No impacts to sacred lands or previously identified Native American religious sites are expected. The cultural resources within the Area of Potential Effect will remain unaffected with the change in the project description and implementation of Applicant Proposed Measures/Design Features Cult-1 and Cult-2.

3.1.4 Hazardous Materials and Solid Wastes

The 2011 Ash Hill Communication Site EA (DOI-BLM-CA-2011-0015-EA) concluded that no known hazardous materials or solid waste occurs in the proposed communications site construction zone. It further concluded that fuels and lubricants used in vehicles and equipment, as well as propane used in power generation, are considered hazardous material. Discarded fuel and lubricant containers, building material, slurry, sludge, and any solid or semi-solid, non-soluble material is considered solid waste. Fuel and lubricant spills, as well as other solid waste material, are often hazardous to animal life and can contaminate the air, water and soil. The 2011 EA provided measures to minimize the likelihood of the spill of hazardous materials. The previously proposed BMPs will be incorporated into the revised project as design features to ensure that hazardous materials are properly transported, stored and used; and that all solid waste generated by proposed construction, operations and maintenance activity is discarded at an appropriate location. Therefore, no additional analysis is required.

3.1.5 Health and Safety

The 2011 Ash Hill Communication Site EA (DOI-BLM-CA-2011-0015-EA) concluded that no specific health and safety concerns have been identified in the affected area. A site-specific Basic Health and Safety Plan was incorporated into the project design to minimize the potential for adverse health and/or safety issues associated with the Proposed Action. This plan addresses emergency and hazard recognition, accident prevention; communications; locations of local hospitals; environmental and physical hazards; and safe work practices and will be incorporated into the revised project as a design feature. The location of the revised communication site has

been moved 253-feet to provide the necessary set back from I-40. Therefore, no additional analysis is required.

3.1.6 Paleontology

The 2011 Ash Hill Communication Site EA (DOI-BLM-CA-2011-0015-EA) concluded that no paleontological resources are known to occur within the affected area. Therefore, no additional analysis is required.

3.1.7 Socioeconomics and Environmental Justice

The 2011 Ash Hill Communication Site EA concluded that no minority or low-income communities are located within or adjacent to the affected area. Therefore, no additional analysis is required.

3.1.8 Special Area Designation

3.1.8.1 Affected Environment

Utility Corridor G

The communication site is within the CDCA Designated Utility Corridor G, a two-mile wide utility corridor. The management plan designated utility planning corridors to "specifically address the expansion of utility facilities constructed for the purpose of telecommunications…". Expansion is defined in this element as "the addition, construction, or major modification of a tower, pipe, canal, or cable to accommodate the transfer of additional products. "BLM encourages utilities to be sited in utility corridors to meet public demand and reduce impacts to sensitive resources by providing an orderly system of development.

The following existing ROWs were identified within proximity to but not on or within the proposed project site:

ROW #	Date of ROW	Grantee	Notes
CALA 0153666	08/21/1959	Southern California Gas Company	Pipeline
CARI 003409	09/19/1963	Atchison Topeka & Santa Fe	Railroad & Stations
CARI 005739	12/1/1964	CA Department of Public Works	Material Site
CARI 007364	05/19/1964	CA Department of Transportation	Highway

Bristol Mountains ACEC

The Proposed Action is located within California Desert National Conservation Lands (NCL) and the Bristol Mountains Area of Critical Environmental Concern (ACEC). The Bristol Mountain ACEC is described in the DRECP LUPA. The ACEC links the Cady Mountain Wilderness Study Area and the Bristol Mountains, Kelso Dunes, Trilobite, and Clipper Mountains wilderness areas with Mojave National Preserve. The Proposed Action is not located within a wilderness or

wilderness study area. The ACEC also connects with the Pisgah ACEC on the west and the Chemehuevi ACEC on the east. Management direction for this ACEC allows for new land use authorization proposals to be analyzed on a case-by-case basis to assess whether they are compatible with the ACEC and its management goals. The overarching goals of the ACEC are to, "protect biological values, including habitat quality, populations of sensitive species, and landscape connectivity while providing for compatible public uses." No land use authorizations that may impair wildlife connectivity would be approved in the ACEC. The disturbance caps within the NCL and ACEC are 1.0% and 0.5%, respectively. In situations where a project is within both an NCL and ACEC, the more restrictive ground disturbance cap applies. The ground disturbance cap is a limitation on ground disturbing activities and cumulatively considers past, present, and future ground disturbance. At this time, the BLM has determined the baseline ground disturbance for the ACEC and NCL is 1.4%, and exceeds the ground disturbance cap. To mitigate for impacts to the ground disturbance cap by the development of the communication lease area and use of an existing undesignated route for access, ground disturbance will be mitigated at a ratio of 3:1, for a total of 1.23 acres.

Mojave Trails National Monument

The Proposed Action is located approximately 340' southerly of the eastbound I-40 ROW and just within the northerly boundary of the MTNM. Per the Presidential Proclamation signed on February 12, 2016, "The MTNM contains the longest remaining undeveloped stretch of Route 66, offering spectacular and serene desert vistas and a glimpse into what travelers experienced during the peak of the route's popularity in the mid-20th century." The Presidential Proclamation established the following oversight and guidelines for the management of the Monument:

- The management of the monument is assigned to the Secretary of Interior through the BLM as a unit of the National Landscape Conservation System;
- "Nothing in this proclamation shall be construed to preclude the renewal or assignment of, or interfere with the operation or maintenance of, or with the replacement, modification, or upgrade within or adjacent to an existing authorization boundary of, existing flood control, utility, pipeline, or telecommunications facilities that are located within the monument in a manner consistent with the care and management of the objects identified above. Existing flood control, utility, pipeline, or telecommunications facilities located within the monument may be expanded, and new facilities may be constructed within the monument, but only to the extent consistent with the care and management of the objects identified above."
- "Except for emergency or authorized administrative purposes, motorized vehicle use in the monument shall be permitted only on roads existing as of the date of this proclamation."
- "Laws, regulations, and policies followed by the BLM in issuing and administering grazing permits or leases on lands under its jurisdiction, including provisions specific to the California Desert Conservation Area, shall continue to apply with regard to the lands in the monument, consistent with the care and management of the objects identified above."

3.1.8.2 Environmental Consequences

Utility Corridor G

The Proposed Action expands the existing wireless telecommunication network currently existing along the I-40 transportation route. The proposed Ash Hill Communication Site would support the continued relay and expansion of microwave and wireless communication signal transmission from the South Ludlow Communication Site to the west and the East of Siberia Communication Site to the east. The Proposed Action provides a solution to the terrain blockage between the line-of-site signal transmission of the existing sites.

The Proposed Action is consistent and supportive of the goals of the CDCA Energy Production and Utility Corridors Element to "Identify environmental constraints and siting procedures that can be used desert-wide by telecommunication firms and public agencies to guide their planning of both individual communication sites and line-of-site communication systems." The vast majority of the two-mile-wide corridor would still be available for future development.

Bristol Mountains ACEC

Management direction for this ACEC allows for new land use authorization proposals to be analyzed on a case-by-case basis to assess whether they are compatible with the ACEC and its management goals.

As described in Section 3.1.2 *Biological Resources* little vegetation occurs in the area of the Proposed Action. Extensive previous surface disturbance has removed most vegetation from the proposed communication site area. The less utilized portions of the access route, south of the gas pipeline road/NS0003, contain some vegetation. The Proposed Action is within previous ground disturbance that is visible on aerial photography at altitudes of 10,000 feet and above. The project will not result in any impacts to sensitive vegetation communities.

The proposed access route and communication site are surrounded by a largely undisturbed native plant community which provides habitat for a variety of terrestrial and avian species. However, as described in Section 3.1.2 *Biological Resources* little to no wildlife impacts are expected relative to surface disturbance and construction activities proposed for the project. Larger mammals are also not expected to be affected by the proposed action; as little or no habitat components would be lost. Although the communication site will be fenced, existing wildlife travel can continue to travel through the area and utilize the existing proposed access road. Furthermore, I-40 is located roughly 340 feet to the north of the proposed communication site and forms a substantial barrier to terrestrial wildlife movement from the north. No significant reduction of any territory or wildlife corridor would occur. Therefore, the proposed project will not impair the movement of wildlife in the vicinity of the project site. The Proposed Action would not have a significant impact to the goals of the ACEC to preserve wildlife connectivity. Therefore, the proposed project would have no significant cumulative impact to wildlife connectivity within the ACEC.

Biological surveys conducted in 2017 observed very recent signs of the desert tortoise such as the detection of fresh tracks as well as carcasses, burrows, and scat showing that the area is still

occupied by the species along the proposed access route (Amec Foster Wheeler 2017). Although impediments to tortoise movement exist in the area, they do not prevent the potential for tortoise travel onto the proposed access road and communication site. Should tortoises occur on the access road or communication site during construction, equipment delivery, or road maintenance activities, potential exists for them to be adversely affected. Applicant Proposed Measures/Design Features have been developed to minimize the potential for impacts to occur. These measures are consistent with the conservation measures identified in the DRECP LUPA.

To mitigate for impacts to the ground disturbance cap by the development of the communication lease area and use of an existing undesignated route for access, ground disturbance will be mitigated at a ratio of 3:1, for a total of 1.23 acres, through one or more of the following techniques. These techniques are intended to help reduce the occurrences of inappropriate route use by restoring and camouflaging undesignated routes.

Vertical Mulching*:* Dead plant material placed at the beginning of illegal routes for the line of sight off of BLM-designated routes can disguise the routes and deter additional illicit OHV traffic. Large dead pieces of plants (e.g., nearby trees, including Joshua trees, shrubs, and materials cleared from the communication site and access road) and rocks placed on the soil surface act as barricades. Similarly, shrubs or branches planted upright in the soil make the trail blend in with surrounding vegetation. Mulch should be placed in a naturally appearing random pattern, with some scattered on the surface of the soil, and some vertically planted back into the soil. Vertical mulch also benefits restoration by trapping wind-blown seeds and lessening wind erosion just above the ground surface. This work would be primarily accomplished with hand tools. Little soil disturbance would occur, except where mulch is “planted” and thus requires a small hole to anchor the material.

Soil De-compaction*:* Undesignated routes with repeated OHV traffic may require soil de-compaction to increase water infiltration and facilitate seed germination. Improving water infiltration also allows burrowing animals such as ants, rodents, and foxes, to inhabit the soil again. Workers would preferably use hand tools such as soil spades, spading forks, and shovels to loosen the top two to six inches of soil.

Mechanical Ripping: Routes too compacted or too wide for use of hand tools may require mechanical ripping to a depth of six to ten inches. A trail bulldozer or grader pulls a ripping attachment. After ripping, hand tools shall camouflage bulldozer tracks. Ripping may provide conditions for germinating non-native invasive plant species.

Soil/Vertical Pitting*:* Soil/vertical pitting of the soil surface will be applied in key areas to create depressions for windblown seeds, provide for local water collection and increased infiltration, reduce surface erosion, discourage vehicular traffic, and create a visual texture to the surface that blends with surrounding undisturbed areas. Soil/vertical pitting contours the soil to direct water flow and draw wind-blown seeds to focal spots on the ground. Pitting first creates bowls approximately one to two feet wide and six inches deep. Spacing is approximately one to two feet apart. The width and depth need to reflect the estimated amount of water that may be needed for a plant to naturally germinate and grow in an arid environment. Pitting creates suitable microsites

in the bowls to increase seed germination rate and to promote higher survival and growth rates of small plants. This work is normally done by shovel, spade or power auger. Vertical mulch should be added in some of the vertical pits.

Soil Imprinting*:* Soil imprinting entails raking small trenches to roughen the texture on surface soil and to collect wind-blown seed. Hand tools such as shovels and rakes would be used in sites with fragile soils or steep slopes.

Raking*:* On undesignated routes formed from a single trespass (one person on one vehicle at one time) or on routes with scarce vegetation, work crews can rake or sweep, usually with a broom, the top one inch of soil to hide evidence of tracks. Soil surfaces may also be contoured to match surrounding land. Primarily hand tools would be used for this work.

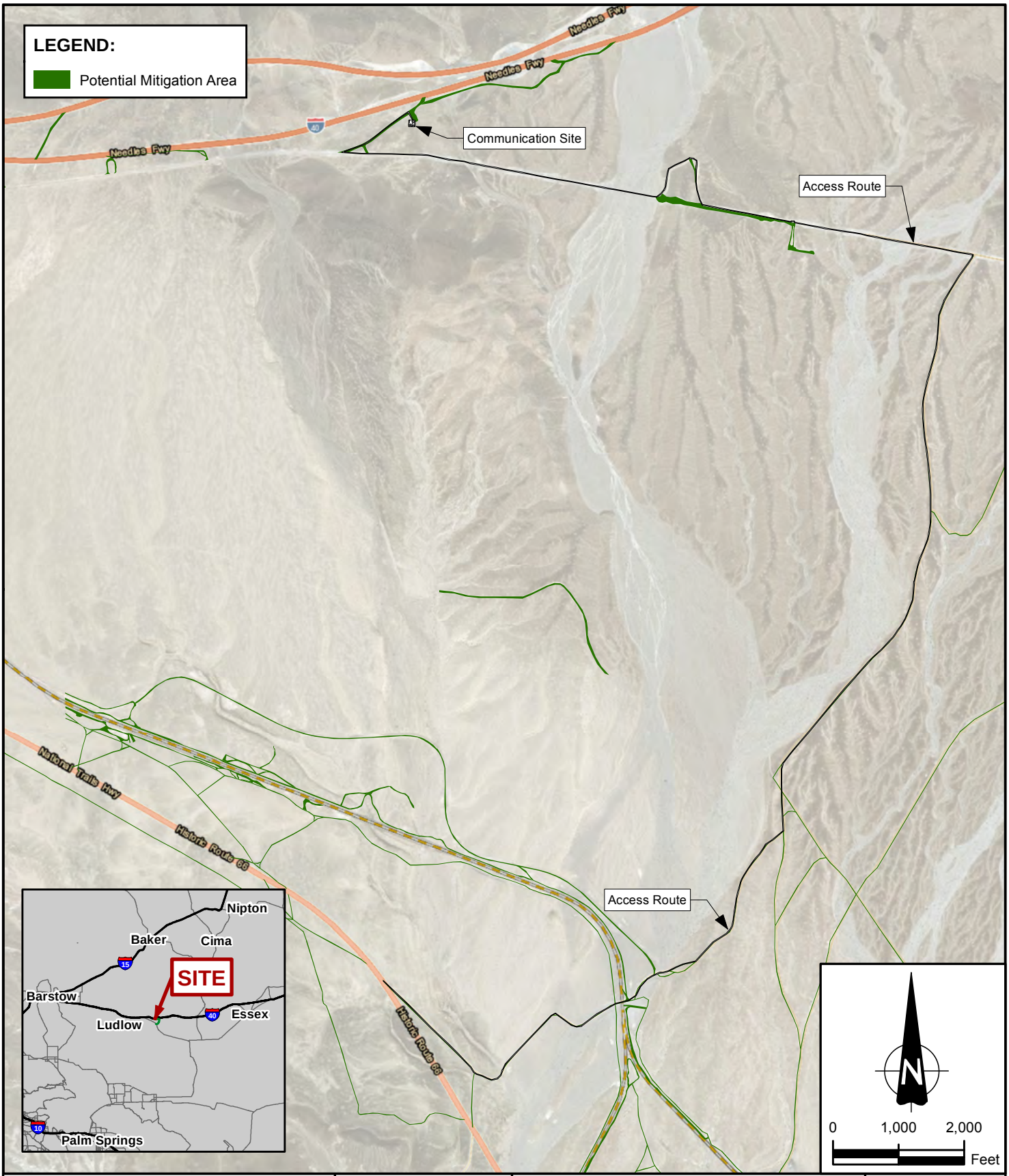
Rocks*:* Other barricades may consist of a row of large rocks and boulders to deter use in especially fragile areas. Placement of small rocks requires no equipment and little or no soil disturbance is associated with their use. Large rocks may be used, requiring dump trucks, trailers and loaders. Large rocks and boulders removed to the side of the disturbance shall be placed back with the darkened/naturally varnished side facing up in a natural appearing pattern. In order to assure that rock placement appears natural, several rocks shall be partially buried into the soil surface (similar to original conditions), rather than being set only on top of the surface.

Planting Vegetation*:* Re-vegetating involves directly planting native species to the line of sight from a BLM-designated OHV trail to accelerate improvements to soil stability, vegetation cover and diversity, and wildlife habitat. Eventually re-vegetation disguises routes. Planting would make use of hand tools (shovels) and some mechanized equipment (augers) to dig holes up to two feet deep and one foot wide, for the largest transplants. In extraordinary cases, transplantation of larger plants would require somewhat larger holes potentially up to three feet deep and three feet wide. After planting, work can contour soil to direct the flow of rainwater or irrigation water to plant roots.

Seeding: Seeding requires rakes to collect seed from seed banks in the soil or from dried seedpods still attached on plants. Hand sowing spread seeds across the soil surface. Raking shall disturb at most the top one-inch of soil. Hand seeding also may be concurrent with soil pitting (see above) to improve seed germination rates. Several methods described herein provide a seedbed for seed already on site.

Removing Manufactured Materials and Structures: The restoration team shall remove litter and other unsightly or potentially dangerous manufactured materials or structures less than 50 years old. If the restoration team discovers materials more than fifty years old, they shall consult with the BLM archaeologist at the Barstow FO. The archaeologist will assess whether removing any materials older than 50 years is appropriate and what archeological documentation is required. Removal would include large structures and materials of non-historical value such as abandoned automobiles, fences, and buildings, including those built in trespass.

Potential areas to mitigate are identified in the image below. Restoration would be conducted on the first 100-150 feet of the routes.



INTERCONNECT TOWERS LLC	amec foster wheeler	ASH HILL COMMUNICATIONS SITE	DATE: JANUARY 2018
			SCALE: 1 " = 0 miles
Amec Foster Wheeler Environment & Infrastructure, Inc. 9177 Sky Park Court San Diego, CA 92123		MITIGATION	PROJECT NO.: 175510001
			FIGURE: 3-1

DRAWN BY: SD CHECKED BY: ED

K:\AMEC US OFFICES\Santa Barbara\175510001_0001 - Ash_Hill\Figure X - Mitigation.mxd - stephane.descombes - 1/29/2018 - 1:26:12 PM

Impacts of route restoration are expected to be less than the communication site due to the limited ground disturbance of restoration techniques and the brief and temporary use of personnel and equipment. The same applicant proposed measures/design features as described for the communication facility would be followed, except installation of desert tortoise fencing.

Limited pollutant emissions would occur during route restoration, principally from the use of equipment where rehabilitation is taking place, additional vehicle travel by rehabilitation crews and the surface disturbance caused by the rehabilitation process. Typically, only one or two pieces of equipment would be in use at any one time, and the duration of use would be temporary and brief. Overall, there would be a long-term positive effect to air quality from the reduction of undesignated routes and revegetation of the surface. These actions would reduce particulates introduced to the air through vehicle travel and wind.

Wildlife would benefit from the decrease in vehicle traffic through their habitat. Routes would grow over and re-seed, creating new forage and undisturbed habitat. Native vegetation in the restored areas would be allowed to proliferate undisturbed.

Route restoration could result in a perceived limitation on opportunities for motorized vehicle use and related recreational activities. There would be a negligible effect on off highway vehicle (OHV) riding in the restoration areas because the routes that would be restored are undesignated and not legally available for riding on now. The proposed route restoration does not affect the existing legal riding opportunities. There would be positive benefits to travel in the area because the route restoration would clarify the open route network. Open routes provide a sufficient network to access the restoration areas for recreation purposes. The restoration effort would cause the undesignated routes to be less noticeable.

Restoring the surface contour and vegetation cover in the bed and side banks of undesignated routes to a natural contour can improve soil conservation. Steep terrain is particularly vulnerable to losing soil crusts and mineral soils after OHV impact. Decompaction increases water infiltration and facilitates seed germination. Improving water infiltration also allows burrowing animals such as ants and rodents, to inhabit the soil again. De-compaction may promote seed germination of non-native invasive species.

Mojave Trails National Monument

The Proposed Action lies approximately 340 feet southerly of the eastbound I-40 ROW and just within the northerly boundary of the MTNM. The MTNM allows for new telecommunications facilities to be constructed within the monument but only to the extent consistent with the care and management of the objects identified in the proclamation that are situated within the MTNM. Such objects include archaeological resources, paleontological resources, sensitive biological resources and Historic Route 66. The proposed communication tower would serve as an expansion to the existing telecommunications network along the I-40 travel corridor and provide intensified wireless coverage to the portion of Route 66 exiting the I-40 travel corridor into the MTNM. The Proposed Action would primarily utilize previous disturbed areas and existing access routes with no new ground disturbance aside from that created by continued vehicular access and hauling

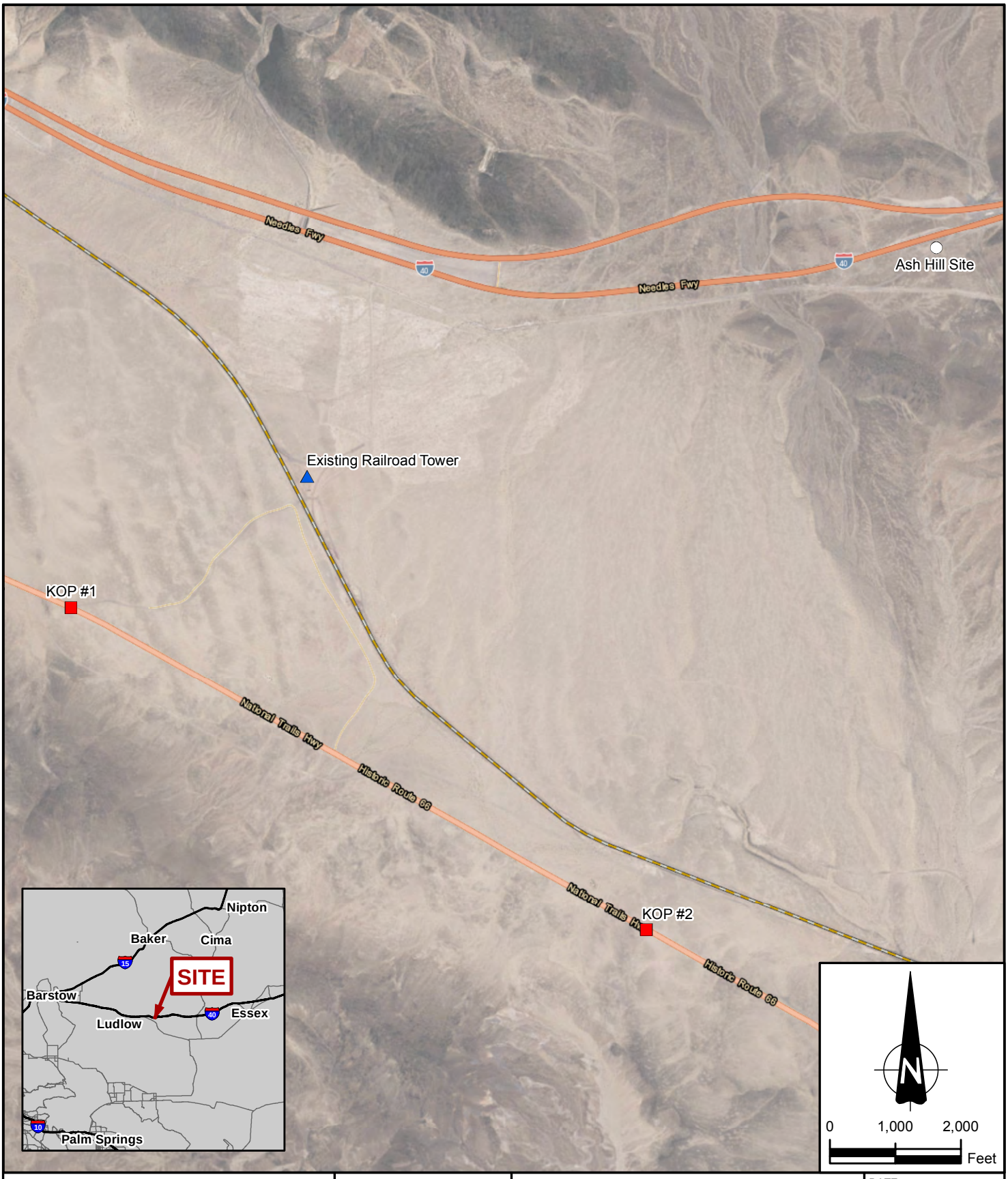
construction equipment to the proposed communication tower site, as well as limited, necessary road repairs of a 300-foot stretch of route NS0017 located 100 feet northeast of the Atchison, Topeka & Santa Fe railroad alignment. Also, light smoothing of routes NS0017 and NS0003 may be necessary following heavy rains.

As discussed in Section 3.2.1 *Biological Resources*, the project will not result in impacts to rare plants species, endangered bird species, fragile desert fish species, native mammal species or amphibians. The Mojave Desert was identified as having some of the best habitat for the Desert Tortoise. The 2017 survey indicated that desert tortoise is present in the area along the proposed access route. Although impediments to tortoise movement exist in the area, they do not prevent the potential for tortoise travel onto the proposed access road and communication site. Should tortoises occur on the access road or communication site during construction, equipment delivery, or road maintenance activities, potential exists for them to be adversely affected (Amec Foster Wheeler 2017). The project includes Applicant Proposed Measures/Design Features to reduce the potential for impacts to the species. These measures are consistent with the management and conservation efforts identified for the Desert Tortoise.

The proposed 196-foot lattice tower will be located approximately 2.12 miles to the east of Route 66. An existing 240’ tall BNSF Railroad Radio Tower is situated 3,470 feet from Route 66 and is currently visible to travelers along this stretch of roadway (Figure 3-2). Figure 3-3 depicts a simulated view of the proposed Ash Hill Communication site from Key Observation Point (KOP) 1. KOP 1 is located along Route 66 approximately 2.7 miles west of the proposed communication site. The proposed communication site tower is not visible from KOP 1. However, the existing BNSF Railroad Radio Tower can be seen in the distance in the KOP 1 simulation. Figure 3-4 depicts a simulated view of the proposed Ash Hill Communication site from KOP 2. KOP 2 is located along Highway 66 approximately 2.14 miles south of the proposed communication site.

As shown in the simulation, the proposed tower is not visible from Route 66. This was determined by using topographic landmarks and their elevations in Google Earth to scale in the height of the tower and to determine if a hill or an object may be blocking the tower or if the tower is even visible from the KOP distance requested. The proposed communication site will not be visible from Route 66 and will not result in an impact to travelers along this historic highway. Travelers along Route 66 will still be able to experience the spectacular and serene desert vistas and would be able to get a glimpse into what travelers experienced during the peak of the route's popularity in the mid-20th century.

Therefore, based on the above discussion, the Proposed Action is consistent with and supportive of the goals of the establishment of the MTNM.



INTERCONNECT TOWERS LLC	amec foster wheeler	ASH HILL COMMUNICATIONS SITE	DATE: DECEMBER 2017
			SCALE: 1 " = 2,000 feet
Amec Foster Wheeler Environment & Infrastructure, Inc. 9177 Sky Park Court San Diego, CA 92123		KOP LOCATIONS	PROJECT NO.: 175510001
			FIGURE: 3-2

DRAWN BY: SD CHECKED BY: ED

K:\AMEC US OFFICES\Santa Barbara\175510001_0001 - Ash_Hill\Figure 3-2 - Existing Railroad Tower.mxd - stephane.descombes - 12/13/2017 - 9:27:24 AM

VICINITY MAP

PROPOSED

EXISTING

PROPOSED TOWER CENTER

NAD83 CALIFORNIA STATE PLANE WEST ZONE:
LAT: N034° 42' 56.54"
LON: W116° 01' 22.16"
NG ELEV: 2070.0' FEET A.M.S.L.

PROPOSED TOWER TYPE:

196' LATTICE TOWER

LICENSED LAND SURVEYOR
TREVOR LEJA
PLS 8869
STATE OF CALIFORNIA

NO.	DATE	DESCRIPTION	NOTES
1	5/13/2016	VISUAL SIMULATION	
2			
3			

CLIENT

InterConnect Towers, LLC
27762 ANTONIO PKWY, SUITE 471
LADERA RANCH, CA 92694

CONSULTANT

LEJA SURVEYING CORP
Land Surveying – Mapping – GPS – Scanning
Court Diagrams – Legal Descriptions
13845 Highland Oaks Drive – Yucaipa, California 92399-8448
Phone: (909) 797-3043 Fax: (909) 797-3876 E-mail: lejasurv@msn.com

SHEET TITLE

ASH HILL
VISUAL SIMULATION
KOP #1

Figure 3-3.

VICINITY MAP

PROPOSED

EXISTING

PROPOSED TOWER CENTER

NAD83 CALIFORNIA STATE PLANE WEST ZONE:
LAT: N034° 42' 56.54"
LON: W116° 01' 22.16"
NG ELEV: 2070.0' FEET A.M.S.L.

PROPOSED TOWER TYPE:

196' LATTICE TOWER

LICENSED LAND SURVEYOR
TREVOR LEJA
PLS 8869
STATE OF CALIFORNIA

NO.	DATE	DESCRIPTION	NOTES
1	5/13/2016	VISUAL SIMULATION	
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CLIENT

InterConnect Towers, LLC
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SHEET TITLE

ASH HILL
VISUAL SIMULATION
KOP #2

Figure 3-4.

3.1.9 Surface and Ground Water

The 2011 Ash Hill Communication Site EA concluded that no surface water occurs in the affected area. While soil permeability would be eliminated in the immediate soil surface affected by concrete pad installation, this small surface impact would not be expected to adversely affect existing groundwater or recharge capability in the affected area. Therefore, no additional analysis is required.

3.1.10 Visual Resources

The 2011 Ash Hill Communication Site EA (DOI-BLM-CA-2011-0015-EA) concluded that the construction would introduce a small brown fenced facility with an 80-foot monopole communications tower into the I-40 highway corridor viewshed in northeastern San Bernardino County, California. No structures other than the highway pavement edge 20' to 40' hills where the Interstate road cuts were made and highway corridor fencing currently exist in this viewshed. The construction of the communication tower would result in a moderate degree of contrast based on criteria that: "The element contrast begins to attract attention". However, the proposed communication site is not expected to "dominate the characteristic landscape". The project design meets Visual Resource Management (VRM) objectives for the proposed site's Class III designation; i.e., "may attract attention but should not dominate the view of the casual viewer".

The revised project now proposes a 196-foot lattice tower as compared to the 80-foot monopole design. The communication site location was adjusted to account for the additional height of the lattice tower. The location of the proposed tower was moved 253-feet perpendicular and further from I-40. The tower is partially to fully blocked from I-40 viewers in several locations by the 40-foot steep road cuts that allow I-40 to travel along a nearly level road bed. A moderate level of change to the characteristic landscape of the affected area is still expected to occur with the construction of the new tower. The anticipated change would contrast with the basic elements of form, line, color and texture found in the predominant natural features. The proposed lattice tower would form the tallest structure in the affected area as viewed from the foreground views. The proposed communication facility is likely to attract the attention of the traveler on I-40 for less than 1 minute assuming vehicular travel speed at 65 miles per hour (mph). This segment of I-40 has a maximum speed limit of 70 mph (Caltrans 2017). The tower would therefore not "dominate the view of the casual viewer" or travelers along the I-40 corridor relative to the eastbound and westbound panoramic landscapes. The project would conform to VRM Class III. Therefore, no additional analysis is required.

3.2 No-Action Alternative

Under the No-Action Alternative, a ROW grant for the construction and operation of the Proposed Action would not be approved by the BLM. It is expected that, at least in the short term, the Federal lands managed by the BLM in the project area would continue to remain in their existing condition. As a result, none of the potential impacts associated with the Proposed Action on federal lands managed by BLM would occur. If the Proposed Action is not approved, the Federal lands under consideration in this EA would become available for other uses that are consistent with BLM's

land use plan, including the placement of other uses authorized by the DRECP LUPA. The No-Action Alternative would not assist the BLM in addressing the management objectives of Executive Orders identified in Section 1.4.1.

4.0 TRIBES, INDIVIDUALS, ORGANIZATIONS OR AGENCIES CONSULTED

4.1 Public

A summary of public comments and analysis will be added to this EA after it has been released for a 30-day public comment period.

4.2 Tribal Consultation

A Class III archeological survey was previously conducted for the project area in 2011. An additional Class III survey was conducted for the new proposed access route. The purpose of the assessment was to identify whether any cultural resources, including Historic Properties, would be affected by the undertaking. The report was prepared in compliance with NEPA; National Historic Preservation Act (NHPA); and the BLM 8110 Manual Series, "Identifying and Evaluating Cultural Resources." The report also reflected project-specific requirements contained within the BLM Fieldwork Authorizations. Additional information regarding the assessment and the identified effects of the undertaking on cultural resources can be found in Sections 3.1.3 of this EA.

4.3 U.S. Fish and Wildlife Service Consultation

Per the requirements of Section 7 the Endangered Species Act, the BLM is required to consult with USFWS if a Proposed Action would be likely to affect listed species or if the Proposed Action would occur in USFWS-designated critical habitat. Biological surveys for federally listed species have been conducted for the proposed undertaking, as described previously in Section 3.1.2. The project area is not located in designated critical habitat for any listed species. BLM completed a previous programmatic consultation for small actions which may have a potential for incidental take of tortoises. The resulting "Biological Opinion for Activities in the California Desert Conservation Area" (USFWS 2017) was issued to the BLM on September 1, 2017, as a programmatic consultation which can be applied to satisfy ESA Section 7 consultation requirements on certain land use authorizations, including this one.

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5.0 LIST OF PREPARERS

5.1 BLM

Name	*Title*	*Role*
Gale VanDeventer	Realty Specialist	Project Lead
William B. Webster	P&EC	Reviewer
Katherine Maikis	Biologist	Biological Resources; USFWS consult
Christopher Dalu	Archeologist	Cultural Resources & Tribal consult
Brian Aillaud	Geologist	Air Quality; Health & Safety
Mona Daniels	Wilderness Coordinator	Visual Resources; Wilderness
Kyle Sullivan	Monument Manager	MTNM Conformance

5.2 Contractor, Amec Foster Wheeler Environment and Infrastructure

Name	*Title*	*Role*
Nancy Christ	Permitting Specialist	NEPA Project Manager
Esther Daigneault	Senior-1 Planner	NEPA Writer
Rita Bright	Associate Project Manager	Visual Resources
Jesse York	Senior Archaeologist	Cultural Resources
Tom Greene	Senior Biologist	Biological Resources

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7.0 ACRONYMS AND ABBREVIATIONS

%	Percent
˚F	Degree Fahrenheit
ACEC	Area of Critical Environmental Concern
Amec Foster Wheeler	Amec Foster Wheeler Environment & Infrastructure, Inc.
AMSL	above mean sea level
APLIC	Avian Power Line Interaction Committee
APN	Assessor's Parcel Number
BA	Biological Assessment
BLM	Bureau of Land Management
BMP	Best Management Practice
BO	Biological Opinion
CA	California
CARB	California Air Resources Board
CCATT	Critical Care Air Transport Team
CDCA	California Desert Conservation Area
CDCA	California Desert Conservation Area Plan
CDFW	California Department of Fish and Wildlife
CDWR	California Department of Water Resources
CEQ	Council on Environmental Quality
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNPS	California Native Plant Society
DFA	Development Focus Area
DRECP	Desert Renewable Energy Conservation Plan
E.O.	Executive Order
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESA	Endangered Species Act of 1973
f/m	foreground/middleground
FC	Federal Candidate
FE	Federal Endangered
FirstNet	First Responder Network Authority
FLPMA	Federal Land Policy and Management Act
FP	Federal Proposed
FT	Federal Threatened
I	Intensive

ACRONYMS AND ABBREVIATIONS (CONTINUED)

I-40	Interstate 40
KOP	Key Observation Point
kV	kilovolt(s)
kW	kilowatt(s)
LUPA	Land Use Plan Amendment
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
MTNM	Mojave Trails National Monument
MUC	Multiple-Use Class
NCL	National Conservation Lands
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NLWL	Northern Lucerne Wildlife Linkage
NRHP	National Register of Historic Places
project	Ash Hill Communications Site Project
PUP	Pesticide Use Proposal
ROW	right-of-way
RPR	Rare Plant Rank
SE	California Endangered
SEN	Designated Sensitive
SRMA	Special Recreation Management Area
SSC	Species of Special Concern
ST	California Threatened
U.S.C.	U.S. Code
UPA	Unusual Plant Assemblage
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VRI	Visual Resources Inventory
VRM	Visual Resource Management
WEMO	West Mojave
WL	Watch List
WRCC	Western Regional Climate Center
ZOI	Zone of Influence

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APPENDIX A

APPLICANT PROPOSED MEASURES/DESIGN FEATURES

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Appendix A

The Applicant has proposed a number of measures that would be implemented, if applicable to the project site, as part of the Proposed Action. They are as follows:

Water Quality Control Measures	
WQ-1	Erosion and sediment loss within disturbed areas would be controlled through BMPs such as erosion-control blankets/mats, gravel bags, silt fencing, stabilized construction entrances, and scheduling management. Construction equipment staging and access and disposal or temporary placement of excess fill within drainages would be prohibited.
WQ-3	Whenever possible, grading would be phased to limit soil exposure. Finished areas would be revegetated naturally through an in-situ seedbank.
WQ-4	BMPs would be regularly inspected and repaired. Damaged or worn silt fences, straw wattles, gravel bags, and other BMPs would be replaced prior to rain events.
WQ-5	Equipment would be inspected daily to ensure proper functioning condition and to minimize the potential for fluid leaks. Fluids would be stored in appropriate containers on pallets, inside rubber berms, indoors, or under a cover, as would other materials that could impact storm water runoff. Equipment maintenance activities would be prohibited within the project area.
WQ-6	A hazardous fluid spill prevention plan would be implemented during construction, and would require that equipment operators and other personnel be informed of specific measures to be implemented in the event of a detected fluid leak, including the use of spill containment material, which would be carried with the equipment or vehicle.
WQ-7	Approved portable toilets would be utilized during construction activity, and would be regularly maintained in a sanitary condition.
WQ-9	Vehicles and construction equipment will not be refueled within any washes. Refueling will be conducted at least 100 feet from any channel, if feasible, or secondary containment will be used.
WQ-10	Spill kits will be kept on site. Any spills or leaks will be immediately cleaned up. Stationary equipment (e.g., motors, pumps, generators, and welders) located within or adjacent to the wash will be positioned over secondary containment.
Dust Control Measures	
AQ-1	Vehicle speeds during construction would be limited to 15 miles per hour
GBMP-1	Crews will limit the amount of surface disturbance to the bed and banks of any channel to the minimum amount necessary for construction.
GBMP-2	Soil will not be stockpiled within any wash during periods of no work (e.g., overnight if no work is occurring, on holidays, etc.).
GBMP-3	Water containing mud, silt, or other pollutants from grading, excavation, equipment washing, or other activities will be prevented from entering any washes and will be placed in locations that are not subjected to high storm flows.
GBMP-4	When project-related activities are completed, any excess materials or debris will be removed from the work area.

Soil Stability Measures	
SO-1	Erosion and sediment loss within disturbed areas would be controlled through BMPs such as erosion-control blankets/mats, gravel bags, silt fencing, stabilized construction entrances, and scheduling management. Construction equipment staging and access and disposal or temporary placement of excess fill within drainages would be prohibited.
SO-3	Whenever possible, grading would be phased to limit soil exposure. Finished areas would be revegetated naturally through an in-situ seedbank.
SO-4	BMPs would be regularly inspected and repaired. Damaged or worn silt fences, straw wattles, gravel bags, and other BMPs would be replaced prior to rain events.
Avoid and Minimize Effects to Biological Resources	
BIO-1	Areas of allowed surface disturbance during construction and O&M would be delineated and marked with brush pins. All surface disturbances during construction and O&M would be limited to the minimum area possible and any disturbance outside of that area restricted. This restriction would apply to the communication site and road alignment, as well as temporary staging and parking areas.
BIO-2	Vehicle speeds would be limited to 15 miles per hour on the Proposed Access Road during construction and O&M. Small signs posting this speed limit would be placed at intervals along the road.
BIO-3	A number of invasive plant species are known to occur in the region, and control measures would be implemented during construction and O&M to limit the further spread of these species. Specific requirements would be further detailed in BLM's final conditions of approval, but would likely include the following best management practices (BMPs): a. A monitoring and treatment plan would be developed for specific species, as appropriate. b. Weed-free gravel, base materials, and other imported earthen products would be procured and washed prior to transport to the Action Area. c. A vehicle and equipment wash station would be located at an off-site area to minimize the inadvertent transport of noxious weed seeds into undisturbed areas. Mud and other material on equipment that could contain noxious weed seeds would be removed at a location where the equipment washing itself would not introduce noxious weeds into unaffected areas. d. Soil disturbance would be minimized to include only those areas specifically required for construction and O&M of the Proposed Access Road. e. No herbicidal use is proposed.
ACEC-DIST-2	For the portion of the Proposed Action that is located on undisturbed land or land disturbed by unauthorized activities, the required disturbance mitigation ratio is 3:1. Impacts from the grading associated with the lease area and use of the existing undesignated route for access shall be mitigated at a ratio of 3:1, for a total of 1.23 aces
LUPA-BIO-2	Designated biologist(s), will conduct, and oversee where appropriate, activity-specific required biological monitoring during pre-construction, construction, and decommissioning to ensure that avoidance and minimization measures are appropriately implemented and are effective. The appropriate required monitoring will be determined during the environmental analysis and BLM approval process. The designated biologist(s) will submit monitoring reports directly to BLM.
LUPA-BIO-5	All activities, as determined appropriate on an activity-by-activity basis, will implement a worker education program that meets the approval of the BLM. The program will be carried out during all phases of the project (site mobilization, ground disturbance, grading, construction, operation, closure/decommissioning or project abandonment, and

	restoration/reclamation activities). The worker education program will provide interpretation for non-English speaking workers, and provide the same instruction for new workers prior to their working on site. As appropriate based on the activity, the program will contain information about: • Site-specific biological and nonbiological resources. • Information on the legal protection for protected resources and penalties for violation of federal and state laws and administrative sanctions for failure to comply with LUPA CMA requirements intended to protect site-specific biological and nonbiological resources. • The required LUPA and project-specific measures for avoiding and minimizing effects during all project phases, including but not limited to resource setbacks, trash, speed limits, etc. • Reporting requirements and measures to follow if protected resources are encountered, including potential work stoppage and requirements for notification of the designated biologist. • Measures that personnel can take to promote the conservation of biological and nonbiological resources.
LUPA-BIO-8	All activities that are required to close and decommission the site (e.g., renewable energy activities) will specify and implement project-specific closure and decommissioning actions must be approved by the BLM, and that at a minimum address the following: • Specifying and implementing the methods, timing (e.g., criteria for triggering closure and decommissioning actions), and criteria for success (including quantifiable and measureable criteria). • Recontouring of areas that were substantially altered from their original contour or gradient and installing erosion control measures in disturbed areas where potential for erosion exists. • Restoring vegetation as well as soil profiles and functions that will support and maintain native plant communities, associated carbon sequestration and nutrient cycling processes, and native wildlife species. Any revegetation efforts will be approved by the BLM prior to the start of those activities. • Vegetation restoration actions will identify and use native vegetation composition, native seed composition, and the diversity to values commensurate with the natural ecological setting and climate projections.
LUPA-BIO-10	Consistent with BLM state and national policies and guidance, integrated weed management actions, will be carried out during all phases of activities, as appropriate, and at a minimum will include the following: • Thoroughly clean the tires and undercarriage of vehicles entering or reentering the project site to remove potential weeds. • Store project vehicles on site in designated areas to minimize the need for multiple washings whenever vehicles re-enter the project site. • Properly maintain vehicle wash and inspection stations to minimize the introduction of invasive weeds or subsidy of invasive weeds. • Closely monitor the types of materials brought onto the site to avoid the introduction of invasive weeds and non-native species. • Reestablish native vegetation quickly on disturbed sites. • Monitor and quickly implement control measures to ensure early detection and eradication of weed invasions to avoid the spread of invasive weeds and non-native species on site and to adjacent off-site areas.

LUPA-BIO-14	Implement the following general standard practices to protect Focus and BLM Special Status Species: • Feeding of wildlife, leaving of food or trash as an attractive nuisance to wildlife, collection of native plants, or harassing of wildlife on a site is prohibited. • Any wildlife encountered during the course of an activity, including construction, operation, and decommissioning will be allowed to leave the area unharmed. • Domestic pets are prohibited on sites. This prohibition does not apply to the use of domestic animals (e.g., dogs) that may be used to aid in official and approved monitoring procedures/protocols, or service animals (dogs) under Title II and Title III of the American with Disabilities Act. • All construction materials will be visually checked for the presence of wildlife prior to their movement or use. Any wildlife encountered during the course of these inspections will be allowed to leave the construction area unharmed. • All steep-walled trenches or excavations used during the project will be covered, except when being actively used, to prevent entrapment of wildlife. If trenches cannot be covered, they will be constructed with escape ramps, following up-to-date design standards to facilitate and allow wildlife to exit, or wildlife exclusion fencing will be installed around the trench(s) or excavation(s). Open trenches or other excavations will be inspected by a designated biologist immediately before backfilling, excavation, or other earthwork. • Minimize natural vegetation removal through implementation of crush and drive or cut or mow vegetation rather than removing entirely.
LUPA-BIO-VEG-1	Management of cactus, yucca, and other succulents will adhere to the California Desert Native Plant Act, San Bernardino County Code, and current up-to-date BLM policy.
LUP-BIO-VEG-5	All activities will follow applicable BLM state and national regulations and policies for salvage and transplant of cactus, yucca, other succulents, and BLM Sensitive plants.
Applicant-Proposed Desert Tortoise Avoidance and Minimization Measures	
DT-1	The Applicant would submit the names and qualifications of individuals to be considered for the protected species avoidance and habitat rehabilitation. The Authorized Biologist(s) would be responsible for selecting Biological Monitors and ensuring that that they and personnel involved with the Project are sufficiently trained to successfully implement the conservation measures (CM). The tortoise biological monitor will be on site during all active work to ensure compliance with CM and permit conditions. The tortoise Authorized Biologist and Biological Monitor(s) will have the authority to halt activities that may be in violation of such provisions. A representative designated by InterConnect Towers will also coordinate with the Authorized Biologist and any other designated USFWS representative on matters concerning desert tortoise. The tortoise biological monitor will be on site during all active work to ensure compliance with CM and permit conditions. The tortoise Authorized Biologist and Biological Monitor(s) will have the authority to halt activities that may be in violation of such provisions. A representative designated by InterConnect Towers will also coordinate with the Authorized Biologist and any other designated USFWS representative on matters concerning desert tortoise management responsibilities.
DT-2	Before the start of construction activities, all personnel involved with the Project will participate in a tortoise education program. The program will include at a minimum the following topics: a. A detailed description of the desert tortoise, including color photographs.

	b. The distribution, general ecology and behavior of the desert tortoise, and species' sensitivity to human activities. c. The protection the desert tortoise receives under the Act, including prohibitions and penalties incurred for violation of the Act. d. Personal measures that can be taken to promote the conservation of desert tortoises. e. Procedures and a point of contact if a desert tortoise is observed on-site. f. The worker training program will consist of a verbal presentation by the authorized biologist. Work personnel will be given wallet size cards or a sheet of paper with this information.
DT-3	No desert tortoises shall be handled as part of this Project.
DT-4	Prior to construction of the communication site, the communication site lease area and temporary staging area would be fenced with desert tortoise-proof fencing and an effective desert tortoise-proof gate. The fence would be constructed under the direction of an authorized biologist. The fence would be placed so that burrows (class 1-3) are on the outside of the enclosure and avoided. Fence construction would follow current fence specifications established by USFWS (2009). Where burial of the fence is not possible, the lower 12 inches (30.5 centimeters) would be folded outward against the ground and fastened to the ground to prevent desert tortoises from entering the communication site and staging area. Gate(s) would be desert tortoise-proof and would remain closed except for the immediate passage of vehicles into the communication site or staging areas. The fence would be checked periodically during construction, and repairs would be made when necessary to ensure its integrity. Following construction, the temporary fencing surrounding the entire communication site lease area and staging area would be removed; permanent desert tortoise fencing would remain in place on the chain link fence installed during construction of the communication site. Permanent desert tortoise fencing on the chain link fence would be checked periodically during O&M, and repairs would be made when necessary to ensure its integrity. After the fence installation around the lease areas and staging areas and prior to the start of construction, the authorized biologist would conduct a thorough survey for desert tortoises within the fenced areas. Desert tortoise exclusionary fencing would not be installed along access road segments. Prior to initial grubbing and grading of all-new access roads, a pre-construction clearance survey would be conducted to locate desert tortoise found within the project area. The survey would be conducted by an authorized biologist within 24 hours of the onset of initial grubbing and grading. Pre-construction clearance surveys would be conducted in accordance with USFWS (2009) guidelines. An appropriate number of authorized biologist or biological monitors would be on-site to monitor all ground-disturbing construction and O&M activities. Ground-disturbing O&M activities would include future access road grading. Routine driving on access roads and O&M within the fenced lease areas would not require monitoring by an authorized biologist or biological monitor. The authorized biologist would determine the number of monitors needed. Prior to, and during all construction and O&M activities, all equipment storage and parking would be confined to the maximum extent possible to previously disturbed areas that have been fenced and cleared of desert tortoises. No heavy equipment would be moved into the fenced areas until the area is clear of desert tortoises. A biological monitor would walk in front of equipment during the initial site entry to ensure that no desert tortoises or their burrows are harmed. Workers would inspect for desert tortoises under a vehicle prior to moving it. If personnel encounter a desert tortoise, they will contact an authorized biologist. The desert tortoise would either be allowed to move a safe distance away prior to moving the vehicle, or the authorized biologist may move the desert tortoise out of harm's way to a safe location to

	allow for movement of the vehicle. If the tortoise must be moved, the authorized biologist would ensure that the desert tortoise is relocated in accordance with the Desert Tortoise Field Manual (USFWS 2009). All observations of desert tortoises and their sign would be reported to the authorized biologist as soon as possible. All workers will be informed of their responsibility and instructed to report the presence of any desert tortoise on or near the project site to the tortoise biological monitor. Any tortoises found on the project site will be continuously monitored during all work hours, and all project activities with potential to cause death or injury will cease or be modified, in order to avoid incidental take until the tortoise moves, unassisted and on its own accord, off the project site and out of harm's way. The tortoise biological monitor, who will be present on site during all surface-disturbing activities of the project, will notify the Service by phone, email or other electronic means as soon as practicable, with written notifications (email is acceptable) provided within one workday of the incident. Information to be provided to the Service will include the date and time of the finding, location, a photograph, disposition of the situation, and any other pertinent information..
DT-5	Cross country vehicle use by construction crew is prohibited.
DT-6	Raven nest surveys would be conducted twice yearly between March 15 and June 1, and separated by at least 30 days. If raven nests are observed they would be removed. The developer would pay, prior to construction, a single lump sum contribution to the regional raven management plan as assessed per acre of the Project right-of-way.
LUPA-BIO-IFS-5	Following the clearance surveys (see Glossary of Terms) within sites that are fenced with long-term desert tortoise exclusion fencing a designated biologist (see Glossary of Terms) will monitor initial clearing and grading activities to ensure that desert tortoises missed during the initial clearance survey are moved from harm's way. A designated biologist will inspect construction pipes, culverts, or similar structures: (a) with a diameter greater than 3 inches, (b) stored for one or more nights, (c) less than 8 inches aboveground and (d) within desert tortoise habitat (such as, outside the long-term fenced area), before the materials are moved, buried, or capped. As an alternative, such materials shall be capped before storing outside the fenced area or placing on pipe racks. Pipes stored within the long-term fenced area after completing desert tortoise clearance surveys will not require inspection.
LUPA-BIO-IFS-7	A designated biologist (see Glossary of Terms) will accompany any geotechnical testing equipment to ensure no tortoises are killed and no burrows are crushed.
LUP-BIO-IFS-8	Inspect the ground under the vehicle for the presence of desert tortoise any time a vehicle or construction equipment is parked in desert tortoise habitat outside of areas fenced with desert tortoise exclusion fencing. If a desert tortoise is seen, it may move on its own. If it does not move within 15 minutes, a designated biologist may remove and relocate the animal to a safe location.
LUPA-BIO-ISF-9	Vehicular traffic will not exceed 15 miles per hour within the areas not cleared by protocol level surveys where desert tortoise may be impacted.
Migratory Bird Avoidance and Minimization Measures	
MB-1	Work conducted during nesting season, shall have a pre-ground disturbance survey conducted within 24 hours prior to initiation of construction activities to determine the presence of any active nests. To be in compliance with the International Migratory Bird Act, no birds may be harmed or killed. If active nests are located the construction of the Project will be postponed or halted until the nest is vacated and juveniles have fledged, as determined by the Project biologist. Work will be postponed if the biologist notes evidence of a second nesting attempt. If nesting is adjacent to but not on the Project site, buffers (distance limits) for construction activities will be established to avoid an active nest. Limits will be defined with flagging, fencing, or other appropriate barriers and construction

	personnel will be instructed about the sensitivity of nest areas. The Project biologist should serve as a monitor during those periods when construction activities will occur near (within 300 feet) active nest areas to ensure that no unintentional impacts will occur. The results of the pre-ground disturbance survey and the avoidance measures taken will be submitted to the BLM within 30 days of completion of the surveys and/or construction activity monitoring.
LUPA-BIO-2	Designated biologist(s) (see Glossary of Terms), will conduct, and oversee where appropriate, activity-specific required biological monitoring during pre-construction, construction, and decommissioning to ensure that avoidance and minimization measures are appropriately implemented and are effective. The appropriate required monitoring will be determined during the environmental analysis and BLM approval process. The designated biologist(s) will submit monitoring reports directly to BLM.
Cultural Resource Avoidance and Minimization Measures	
Cult-1	If unanticipated cultural resources are encountered, all work shall cease within 100-feet of the resource and the BLM Needles Field Office archaeologist will be notified immediately to assess the nature of the find.
Cult-2	A cultural resource monitor will be present if any road maintenance takes place within 15 meters of isolate ISO-002, and if that activity would disturb the subsurface at any depth. The only exception to this would be if road maintenance was limited to placing material such as gravel over the existing road bed.

U.S. Department of the Interior
Bureau of Land Management

Finding of No Significant Impact

DOI-BLM-CA-D090-2016-0007-EA

Ash Hill Communication Site

PREPARING OFFICE

U.S. Department of the Interior
Bureau of Land Management
Needles Field Office,
California

1. Finding of No Significant Impact

1.1. Ash Hill Communication Site
NEPA DOI-BLM-CA-D090-2016-0007-EA Case File CACA-051797

Based upon a review of the EA and the supporting documents, I have determined that the project is not a major federal action and will not have a significant effect on the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significance in context or intensity, as defined at 40 CFR 1508.27 and do not exceed those effects as described in the California Desert Conservation Area Management Plan of 1980 (as amended). Therefore, an environmental impact statement is not required. This finding is based on the context and intensity of the project as described below.

1.2. Context:
The lands proposed for:

The project is a site-specific action directly involving 8.93 acres of BLM administered public land that does not in and of itself have international, national, regional, or state-wide importance. Interconnect Towers, LLC. has applied for a Lease to construct, operate, and maintain a multiple tenant communication site under the Federal Land Policy and Management Act (FLPMA) on public lands administered by the Bureau of Land Management's (BLM) Needles Field Office.

1.3. Intensity:
The following discussion is organized around the 10 Significance Criteria described at 40 CFR 1508.27. The following have been considered in evaluating intensity for this proposal:

1. Impacts that may be both beneficial and adverse.

This communication site will strengthen the wired and wireless broadband network along Interstate 40 improving the emergency response and daily public safety communication system, FirtNet created under public law 112-96.

Adverse effects include the construction disturbance of approximately 0.23 total surface area and would be temporary.

2. The degree to which the proposed action affects public health or safety.

No aspect of the proposed action would have a negative effect on public health and safety

3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

There are no prime farmlands or wild and scenic rivers in the project area. As described in the EA, indirect impacts to cultural resources on the Reservation were identified for the preferred alternative. Monitoring and environmental commitments included in the Proposed Action will be

implemented during project construction to minimize the potential for adverse impacts to heritage resources. Environmental commitments integral to the preferred alternative will also lessen adverse effects to Area of Critical Environmental Concern, designated by BLM.

4. The degree to which the effects on the quality of the human environment are likely to be controversial.

The effect of the Proposed Action on the quality of the human environment will not be controversial. The project would be located within an already disturbed area with minimum new surface disturbance.

5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

No highly uncertain or unknown risks to the human environment were identified during analysis of the preferred alternative.

6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

The preferred alternative neither establishes a precedent for future BLM actions with significant effects nor represents a decision in principle about a future consideration.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.

No individually or cumulatively significant impacts were identified for the preferred alternative. Any adverse impacts identified for the preferred alternative, in conjunction with any adverse impacts of other past, present, or reasonably foreseeable future actions will result in negligible to moderate impacts to natural and cultural resources.

8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP or may cause loss or destruction of significant scientific, cultural, or historical resources.

The Proposed Action will have no potential to affect known cultural resources or historic properties. A stipulation that would address any undiscovered cultural or paleontological resources will provide for protection and requirements of the holder in the event of a discovery during surface disturbing activities.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the ESA of 1973.

The U.S. Fish and Wildlife Service agreed in an email dated November 15, 2016 to using the 1997 Biological Opinion for Small Projects Affecting Desert Tortoise Habitat in Imperial, Inyo, Kern, Los Angeles, Riverside, and San Bernardino Counties, California, to cover this action.

Mitigation measures from the BO and additional measures identified in the November 2016 email have been identified in order to minimize the potential for adverse effect on the federally endangered desert tortoise during construction.

10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The preferred alternative violates no federal, state, or local environmental protection laws.

1.4. Signed:

Mike W. Ahrens, Manager
Needles Field Office

Date

U.S. Department of the Interior
Bureau of Land Management

Decision Record

DOI-BLM-CA-D090-2016-0007-EA

Ash Hill Communication Site

Preparing Office
U.S. Department of the Interior
Bureau of Land Management
Needles Field Office, California

SUMMARY

This document constitutes the Decision Record (DR) of the United States Department of the Interior (DOI) and Bureau of Land Management (BLM) for the Ash Hill Communications Site proposed by InterConnect Towers, LLC. This DR approves the construction, operation and maintenance, and termination of the proposed Project on public lands in San Bernardino County, California, as analyzed in the Environmental Analysis (DOI-BLM-CA-D090-2016-0007-EA). This approval will take the form of a BLM Communication Site Lease and Access Road Right-of-Way (ROW) grant under Title V of the Federal Land Policy and Management Act (FLPMA) and 43 CFR Part 2800 regulations.

BACKGROUND

On September 23, 2011 the BLM Needles Field Office provided a Decision Record to the Applicant approving the construction, operation, maintenance and decommissioning of a multi-carrier communication site facility on approximately 6.255 acres of public land east of Ludlow California (BLM, 2011a). The approved communication site (approximately 0.207 acres of the larger 6.255-acre ROW) consisted of a typical 80-foot tall steel monopole signal tower, four small communication equipment buildings, five 1,000-gallon propane tanks and two 35kW generators situated on a 34ft2 concrete pad. The 0.207-acre facility would have been gated and enclosed by chain-link fencing. The approved project also included the use of a temporary 100ft2 staging area (0.230 aces) and the use of an existing access road of 17,088 feet or 3.236 miles in length by 20 feet in width of which 13,172 feet or 2.495 miles was situated on public lands (6.048 acres) but also crossed through two parcels of private land. The 2011 project was analyzed in Environmental Assessment DOI-BLM-CA-2011-0015-EA (BLM, 2011b).

Since the issuance of the Decision Record, the type and height of the tower, size and location of the proposed lease area, site electrical power source, and access route has changed. The original tower associated with the communication site was an 80-foot monopole. The project proponent now proposes to construct a 196-foot free standing, lattice communication tower to accommodate multi-tenant wireless communication facilities. The taller tower was necessary to provide better coverage to the service area. Because of the taller tower, a slightly larger area for the communication site (0.230 vs 0.207 acres) is needed. The location of the communication site has also been moved 253-feet to provide the necessary set back from Interstate 40 (I-40). In addition, electric power to the site would be provided primarily by a photovoltaic solar array structure with propane powered generators for back-up power, as opposed to the previously proposed use of only propane powered generators. Finally, the project proposes a different primary access road than originally approved. The route approved in the 2011 Decision Record was approximately 3.236 miles long. The new proposed primary access route is approximately 5.77 miles long. This access route primarily utilizes a series of existing BLM designated open access routes off of U.S. Route 66 whereas the previously approved access route used a combination of public and private property. The new access route is fully described in Section 2.3 Proposed Action. No substantial improvements (i.e. widening) of access routes would be required.

The affected public land is defined as follows:

Communication Site:
San Bernardino Meridian, California
T. 7 N., R. 9 E.,
sec. 11, Portion of SW1/4NW1/4.

Access Route:
San Bernardino Meridian, California

T. 7 N., R. 9 E.,
Sec. 26, Portion of NW1/4NW1/4;
Sec. 23, Portions of S1/2, SE1/4NE1/4; Sec. 24, Portion of the NW1/4;
Sec. 13, Portions of the SE1/4, W1/2NE1/4; Sec 12, Portions of the W1/2, SW1/4; Sec 11, Portion of the N1/2;
Sec. 10, Portion of the E1/2NE1/4.

ALTERNATIVE CONSIDERD

The Proposed Action involves issuing a 0.23-acre communications site use lease for the construction, operation, and maintenance of a multi-tenant communication facility and an 8.70 acre Right-of-Way (ROW) grant for access roads on BLM-administered land. The project site lies approximately 7.8 miles easterly of the community of Ludlow, California just southerly of I-40.

The following site infrastructure will be installed at the project site:

- A single 3-legged 196' freestanding, self-supporting lattice communication tower on top of a 21' triangular base and a 28' x 28' concrete foundation;
- A 20' x 40' square foot equipment building to accommodate up to 6 tenants;
- 3 - 15' x 40' square foot solar arrays;
- 2 - 100 Kw propane generators;
- 3 - 2,000-gallon propane tanks;
- A 12.5' wide entrance gate would be placed at the southerly line of the lease site; and
- A chain link fence measuring 8-10 feet in height, with three strands of barbed wire on the top, bringing the total height of the fencing to 9-11 feet around the lease area perimeter. Galvanized hardware mesh of one-inch by two-inch dimensions would be attached to the lower 18 inches of the chain-link fencing and buried to a 12-inch depth, in accordance with standard specifications for fencing in desert tortoise habitat.

TERMS COMPLIANCE and MONITORING

Compliance with the Design features and BLM mitigation measures is hereby required and incorporated into this decision record as Conditions of Approval.

PUBLIC INVOLVMENT

The BLM Needles Field Office conducted internal scoping with an interdisciplinary team of specialists to define the key issues for analysis, determine the data needs, as well as made the EA available for a 30 day public comment period from February 29, 2018 thru March 29, 2018. An appendix of comments and responses was attached to the back of the EA. BLM also made edits to the EA and noted those areas in the Appendix.

DECISION

Based on the analysis in Environmental Analysis, DOI-BLM-CA-D090-2016-0007-EA, it is my decision to implement the Proposed Action Alternative with mitigation measures to protect resources.

AUTHORITY

The authority for this decision is contained in Title V of the Federal Land Policy and Management Act (FLPMA) of 1976, as amended, and the BLM regulations (43 CFR 2800).

Approving the Proposed Action is also support by the management objectives in:

- Executive Order (E.O.) No. 13807 issued on August 15, 2017, "Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects" creates a framework to ensure the permitting process for infrastructure projects, is "coordinated, predictable, and transparent." The order defines "infrastructure project" as a project to develop the public and private physical assets that are designed to provide or support services to the general public in numerous sectors, including broadband internet (Trump, 2017).
- Executive Order No. 13616, issued on June 12, 2012, "Accelerating Broadband Infrastructure Deployment," to facilitate wired and wireless broadband infrastructure deployment on Federal lands, buildings, and ROW, federally assisted highways, and tribal and individual Indian trust lands, particularly in underserved communities (Obama, 2012).
- Public Law 112-96, signed on February 22, 2012 as the "Middle Class Tax Relief and Job Creation Act of 2012", created the First Responder Network Authority (FirstNet). FirstNet is assigned the mission to build, operate and maintain the first high-speed, nationwide wireless broadband network dedicated to public safety. FirstNet will provide a single interoperable platform for emergency and daily public safety communications (US Congress, 2012).

RATIONALE

The EA document was written analyzing the impacts of the action on issues/resources that were identified through both internal and external scoping. Based on the impact analysis there was a Finding of No Significant Impacts, therefore, and Environmental Impact Statement is not necessary. The proposed action was selected with conditions of approval since it involved minimal impacts to resources and short and long-term benefits for towards public health and safety.

APPEAL PROCEDURES

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in Title 43 Code of Federal Regulations (CFR) Part 4 and the enclosed Form 1842-1. If an appeal is taken, a notice of appeal must be filed in the Needles Field Office, Bureau of Land Management, U.S. Department of the Interior, 1303 South U.S. Highway 95, Needles, California 92363, within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

Pursuant to 43 CFR 2801.10(b) this decision shall remain effective pending appeal unless the Secretary of the Interior rules otherwise. If the appellant wishes to file a petition pursuant to regulation 43 CFR 2804.1 for a stay of the effectiveness of this decision during the time that the appeal is being reviewed by the Board, the petition for a stay must accompany the notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If a stay is requested, the appellant has the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

(1) The relative harm to the parties if the stay is granted or denied;
(2) The likelihood of the appellant's success on the merits;
(3) The likelihood of immediate and irreparable harm if the stay is not granted; and
(4) Whether the public interest favors granting the stay.

Mike W. Ahrens, Manager
Needles Field Office

5-9-18

Date

CONDITIONS OF APPROVAL AND ADVISORY:

Project: Ash Hill Communication Site
Control Number: DOI-BLM-CA-D090-2016-0007-EA

Conditions of Approval

1. Holder shall comply with applicable federal and state laws and regulations issued thereunder, existing or hereafter enacted or promulgated, affecting in any manner construction, operation, maintenance or termination of the Right-of-Way grant.

2. Holder will comply with all conditions contained in the communication site lease unless otherwise approved in writing by the Authorized Officer. Non-compliance with these conditions by the Holder or any of his agents may at the option of the Authorized Officer result in the cancellation or suspension of the permit or adverse action against the Grantee, Permittee, or Operator.

3. The Communication facility will be constructed to meet Motorola R56 Design Standards.

4. Upon termination of the Communication Site Lease the Holder will be required to restore the site to before disturbed conditions.

- A Decommissioning and Restoration Plan will be provided to the BLM for approval prior to restoration.
- The Decommissioning Plan would include removal of power poles and transmission lines erected during construction.
- The Decommissioning Plan would be submitted for incorporation into the Facility Management Plan that would be on hand with the BLM.
- These plans would be prepared prior to NTP for construction.
- A bond will be required and held in the event the holder is unable, or unwilling, to restore the site.

5. Soil excavation and leveling work, which could generate fugitive dust emissions, will be limited to non-windy conditions. Such work will be curtailed when wind speeds exceed 10 mph. An anemometer will be used to monitor wind speed and ensure this work does not occur in windy conditions.

6. Erosion and sediment loss within disturbed areas will be controlled through BMPs such as erosion-control blankets/mats, gravel bags, silt fencing, stabilized construction entrances, and scheduling management.

- Construction equipment staging and access and disposal or temporary placement of excess fill within drainages would be prohibited.

7. Whenever possible, grading will be phased to limit soil exposure. Finished areas will be revegetated naturally through an in-situ seedbank.

8. Damaged or worn silt fences, straw wattles, gravel bags, and other BMPs will be replaced prior to rain events.

9. Equipment will be inspected daily to ensure proper functioning condition and to minimize the potential for fluid leaks.

- Fluids will be stored in appropriate containers on pallets, inside rubber berms, indoors, or under a cover, as would other materials that could impact storm water runoff.
- Equipment maintenance activities are be prohibited within the project area.

10. A hazardous fluid spill prevention plan will be implemented during construction, and will require that equipment operators and other personnel be informed of specific measures to be implemented in the event of a detected fluid leak, including the use of spill containment material, which will be carried with the equipment or vehicle.

11. Approved portable toilets will be utilized during construction activity, and will be regularly maintained in a sanitary condition.

12. Vehicles and construction equipment will not be refueled within any washes. Refueling will be conducted at least 100 feet from any channel, if feasible, or secondary containment will be used.

13. Spill kits will be kept on site. Any spills or leaks will be immediately cleaned up.

- Stationary equipment (e.g., motors, pumps, generators, and welders) located within or adjacent to the wash will be positioned over secondary containment.
- The BLM will be notified of any spills or leaks within 24 hours.

14. Vehicle speeds during construction will be limited to 15 miles per hour.

- Small signs posting this speed limit would be placed at intervals along the road.

15. Crews will limit the amount of surface disturbance to the bed and banks of any channel to the minimum amount necessary for construction.

16. Soil will not be stockpiled within any wash during periods of no work (e.g., overnight if no work is occurring, on holidays, etc.).

17. Water containing mud, silt, or other pollutants from grading, excavation, equipment washing, or other activities will be prevented from entering any washes and will be placed in locations that are not subjected to high storm flows.

18. When project-related activities are completed, any excess materials or debris

will be removed from the work area.

19. Areas of allowed surface disturbance during construction and O&M would be delineated and marked with brush pins. All surface disturbances during construction and O&M would be limited to the minimum area possible and any disturbance outside of that area restricted.

20. Vehicles will be stored on site during construction to minimize daily impact on the road due to excessive use.

21. The following measures shall be implemented to limit the further spread of non-native plant species:

- A monitoring and treatment plan would be developed for specific species, as appropriate.
- Weed-free gravel, base materials, and other imported earthen products would be procured and washed prior to transport to the Action Area.
- A vehicle and equipment wash station would be located at an off-site area to minimize the inadvertent transport of noxious weed seeds into undisturbed areas. Mud and other material on equipment that could contain noxious weed seeds would be removed at a location where the equipment washing itself would not introduce noxious weeds into unaffected areas.
- Soil disturbance would be minimized to include only those areas specifically required for construction and O&M of the Proposed Access Road.
- No herbicidal use is proposed.

22. Impacts from the grading associated with the lease area and use of the existing undesignated route for access shall be mitigated at a ratio of 3:1, for a total of 1.23 aces.

23. The worker education program will provide interpretation for non-English speaking workers, and provide the same instruction for new workers prior to their working on site. The program will contain information about:

- Site-specific biological and non-biological resources.
- Information on the legal protection for protected resources and penalties for violation of federal and state laws and administrative sanctions for failure to comply with LUPA CMA requirements intended to protect site-specific biological and non-biological resources.
- The required LUPA and project-specific measures for avoiding and minimizing effects during all project phases, including but not limited to resource setbacks, trash, speed limits, etc.
- Reporting requirements and measures to follow if protected resources are encountered, including potential work stoppage and requirements for notification of the designated biologist.
- Measures that personnel can take to promote the conservation of biological and non-biological resources.

24. All activities that are required to close and decommission the site (e.g., renewable energy activities) will specify and implement project-specific closure and decommissioning actions must be approved by the BLM, and that at a minimum address the following:

- Specifying and implementing the methods, timing (e.g., criteria for triggering closure and decommissioning actions), and criteria for success (including quantifiable and measureable criteria).
- Recontouring of areas that were substantially altered from their original contour or gradient and installing erosion control measures in disturbed areas where potential for erosion exists.
- Restoring vegetation as well as soil profiles and functions that will support and maintain native plant communities, associated carbon sequestration and nutrient cycling processes, and native wildlife species. Any revegetation efforts will be approved by the BLM prior to the start of those activities.
- Vegetation restoration actions will identify and use native vegetation composition, native seed composition, and the diversity to values commensurate with the natural ecological setting and climate projections.

25. Consistent with BLM state and national policies and guidance, integrated weed management actions, will be carried out during all phases of activities, as appropriate, and at a minimum will include the following:

- Thoroughly clean the tires and undercarriage of vehicles entering or reentering the project site to remove potential weeds.
- Store project vehicles on site in designated areas to minimize the need for multiple washings whenever vehicles re-enter the project site.
- Properly maintain vehicle wash and inspection stations to minimize the introduction of invasive weeds or subsidy of invasive weeds.
- Closely monitor the types of materials brought onto the site to avoid the introduction of invasive weeds and non-native species.
- Reestablish native vegetation quickly on disturbed sites.
- Monitor and quickly implement control measures to ensure early detection and eradication of weed invasions to avoid the spread of invasive weeds and non-native species on site and to adjacent off-site areas.

26. Implement the following general standard practices to protect Focus and BLM Special Status Species:

- Feeding of wildlife, leaving of food or trash as an attractive nuisance to wildlife, collection of native plants, or harassing of wildlife on a site is prohibited.
- Any wildlife encountered during the course of an activity, including construction, operation, and decommissioning will be allowed to leave the area unharmed.
- Domestic pets are prohibited on sites. This prohibition does not apply to the use of domestic animals (e.g., dogs) that may be used to aid in official and approved monitoring procedures/protocols, or service animals (dogs) under Title II and Title III of the American

with Disabilities Act.

- All construction materials will be visually checked for the presence of wildlife prior to their movement or use. Any wildlife encountered during the course of these inspections will be allowed to leave the construction area unharmed.
- All steep-walled trenches or excavations used during the project will be covered, except when being actively used, to prevent entrapment of wildlife. If trenches cannot be covered, they will be constructed with escape ramps, following up-to-date design standards to facilitate and allow wildlife to exit, or wildlife exclusion fencing will be installed around the trench(s) or excavation(s). Open trenches or other excavations will be inspected by a designated biologist immediately before backfilling, excavation, or other earthwork.
- Minimize natural vegetation removal through implementation of crush and drive or cut or mow vegetation rather than removing entirely.

27. Management of cactus, yucca, and other succulents will adhere to the California Desert Native Plant Act, San Bernardino County Code, and current up-to-date BLM policy.

- While no cacti, succulent species, or Yucca species are known from the area proposed or surface disturbance, these plant species will be identified as at-risk in the project area, they will be salvaged and re-planted in consultation with the BLM's Needles Field Office.
- All cactus and yucca species shall be avoided. All other plant species shall be avoided as much as possible.

28. All activities will follow applicable BLM state and national regulations and policies for salvage and transplant of cactus, yucca, other succulents, and BLM Sensitive plants.

29. Authorized Biologist will:

- Provide a verbal presentation on environmental awareness training to all involved project personnel outlining desert tortoise status, life history and protection concerns associated with the proposed action. This training program will highlight:
    - the responsibility of vehicle operators to avoid tortoises that may be encountered along this existing road;
    - the need to look beneath vehicles and equipment parked outside fenced areas prior to moving these vehicles;
    - a restriction on off-road vehicle use away from the project site;
    - A detailed description of the desert tortoise, including color photographs;
    - The distribution, general ecology and behavior of the desert tortoise, and species' sensitivity to human activities;
    - the protection the desert tortoise receives under the Act, including prohibitions and penalties incurred for violation of the Act;
    - personal measures that can be taken to promote the conservation of desert tortoises;
    - procedures and a point of contact if a desert tortoise is observed on-

site;
    - Work personnel will be given wallet size cards or a sheet of paper with this information;
    - as well as a restriction on bringing dogs to the Project site.

- Accompany and monitor any heavy equipment use that is employed to smooth the existing road proposed for vehicle travel and equipment transport to the site. Any tortoises and/or earthen burrows detected along this access route will be closely monitored and avoided during road smoothing operations.
- Survey the proposed site immediately prior to any surface disturbance to ensure no tortoises or tortoise burrows are present.
- Monitor the installation of temporary tortoise exclusion fencing appropriate to the site, which will be erected around the perimeter of the proposed surface disturbance area, equipment staging, and material storage areas.
- Conduct pre-construction clearance surveys in accordance with USFWS (2009) guidelines prior to any ground disturbing activity.
- Provide post-construction report to the BLM that summarizes all monitoring activity. The report will address compliance with BLM stipulations and mitigation measures.The report shall also provide an estimate of all acreage disturbed by various aspects of construction, inclusive of any potentially suitable tortoise habitat disturbed, if any.

30. The Authorized Biologist and monitor(s) will be on site during all active work to ensure compliance with CM and permit conditions.

31. The Authorized Biologist and Monitor(s) will have the authority to halt activities that may be in violation of such provisions.

32. The Holder will ensure on site biologists have copies of all maps with survey results and USFWS 2009 service manual.

33. The communication site and temporary staging area will be fenced with desert tortoise-proof fencing and an effective desert tortoise-proof gate.

34. All equipment will be stored and parked to the maximum extent possible within areas fenced and cleared of desert tortoises.

35. Cross country vehicle use by construction crew is prohibited.

36. Raven nest surveys would be conducted twice yearly between March 15 and June 1, and separated by at least 30 days. If raven nests are observed they would be removed. The developer would pay, prior to construction, a single lump sum contribution to the regional raven management plan as assessed per acre of the Project right-of-way.

- The raven survey/nest removal that focuses on the lattice towers and distribution lines would occur at the communication site and be conducted twice yearly between March 15 and June 1, separated by at least 30 days; approximately 20 to 40 man-hours annually, dependent on if nest removal is necessary.
- A per-acre raven management contribution amount would be $64.00 for a twenty-year project or $105 for a project with a life of 30 years. The total contribution would be derived from the total new disturbance of the communication sites, approx. 0.30 to 0.60 acres per site, including spur roads/distribution poles.

37. A designated biologist will accompany any geotechnical testing equipment to ensure no tortoises are killed and no burrows are crushed.

38. Inspect the ground under the vehicle for the presence of desert tortoise any time a vehicle or construction equipment is parked in desert tortoise habitat outside of areas fenced with desert tortoise exclusion fencing. If a desert tortoise is seen, it may move on its own. If it does not move within 15 minutes, a designated biologist may remove and relocate the animal to a safe location.

39. Vehicular traffic will not exceed 15 miles per hour within the areas not cleared by protocol level surveys where desert tortoise may be impacted.

40. Work conducted during nesting season, shall have a pre-ground disturbance survey conducted within 24 hours prior to initiation of construction activities to determine the presence of any active nests. To be in compliance with the International Migratory Bird Act, no birds may be harmed or killed. If active nests are located the construction of the Project will be postponed or halted until the nest is vacated and juveniles have fledged, as determined by the Project biologist. Work will be postponed if the biologist notes evidence of a second nesting attempt. If nesting is adjacent to but not on the Project site, buffers (distance limits) for construction activities will be established to avoid an active nest. Limits will be defined with flagging, fencing, or other appropriate barriers and construction personnel will be instructed about the sensitivity of nest areas. The Project biologist should serve as a monitor during those periods when construction activities will occur near (within 300 feet) active nest areas to ensure that no unintentional impacts will occur. The results of the pre-ground disturbance survey and the avoidance measures taken will be submitted to the BLM within 30 days of completion of the surveys and/or construction activity monitoring.

41. Designated biologist(s) will conduct and oversee, where appropriate, activity-specific required biological monitoring during pre-construction, construction, and decommissioning to ensure that avoidance and minimization measures are appropriately implemented and are effective. The appropriate required monitoring willbe determined during the environmental analysis and BLM approval process. The designated biologist(s) will submit monitoring reports directly to BLM.

42. If unanticipated cultural resources are encountered, all work shall cease within 100-feet of the resource and the BLM Needles Field Office archaeologist will be notified immediately to assess the nature of the find.

- Holder will immediately bring to the attention of the Authorized Officer any archaeological resources encountered during operations and maintain the integrity of such resources pending subsequent investigation.

43. A cultural resource monitor will be present if any road maintenance takes place within 15 meters of isolate ISO-002, and if that activity would disturb the subsurface at any depth. The only exception to this would be if road maintenance was limited to placing material such as gravel over the existing road bed.

44. The Holder will coordinate with Twenty-Nine Palms Band of Mission Indians to have a Native American Monitor present during construction.

45. If human remains are encountered during construction, California Health and Safety Code Section 7050.5 requires that no further work will continue at the location of the find until the County Coroner has made all the necessary findings as to the origin and distribution of such remains pursuant to Public Code Resources Code Section 5097.98.

46. Any cultural (historic/prehistoric site or object) and/or paleontological resource (fossil remains of plants or animals) discovered during the proposed action shall immediately be reported to the Field Manager or his designee. All operations in the immediate area of the discovery shall be suspended until written authorization to proceed is issued. An evaluation of the discovery shall be made by a qualified archaeologist or paleontologist to determine appropriate actions to prevent the loss of significant cultural or scientifically important paleontological values.

47. The Holder and all staff members, representatives, sub-contractors, and volunteers shall notify the Federal lnteragency Communication Center (FICC) at (888) 233-6518 (toll free) if they become aware of any medical related incidents occurring on public lands that require attention from an EMT, paramedic, or doctor.

- FICC shall also be notified if any violations of federal, state, or local laws and regulations or hazardous conditions are observed, or if any human remains are discovered on public lands. The notification will be made whether the incidents are related to the permitted/authorized activity or not. Notification shall be made to FICC as soon as possible.
- FICC will be notified in addition to any notification made to another law enforcement or medical agency. Failure to notify FICC of these incidents may result in revocation or suspension of the permit/authorization.

48. Upon the discovery of human remains, San Bernardino County Coroner's Office will be contacted immediately. The coroner has 2 working days to examine the remains after notification. The BLM Needles Field Office must be informed of

the discovery due to complementary jurisdictional issues.

49. There area around the suspected remains will be secured and no further disturbance will occur until the proper authorities arrive and determine if the site is an active crime scene.

50. The Coroner will determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions.

The following list of mitigation measure from the "Biological Opinion for Small Projects in Desert Tortoise Habitat" (1-8-97-F-17; USFWS 1997) will be applied in (Appendix B) for the proposed action:

51. The Holder shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance with the BLM.

- The FCR must be on-site during all project activities. The FCR shall have the authority to halt all project activities that are in violation of the stipulations. The FCR shall have a copy of all stipulations when work is being conducted on the site. The FCR may be a crew chief or field supervisor, a project manager, any other employee of the project proponent, or a contracted biologist.

52. All employees of the project Holder who work on-site shall participate in a tortoise education program prior to initiation of field activities.

- The Holder is responsible for ensuring that the education program is developed and presented prior to conducting activities.
- New employees shall receive formal, approved training prior to working on-site.
- The employee education program must be received, reviewed and approved by the BLM Field Office at least 15 days prior to the presentation of the program.
- The program may consist of a class presented by a qualified biologist (BLM or contracted) or a video.
- Wallet-sized cards or a one-page handout with important information for workers to carry are recommended.
- The program shall cover the following topics at a minimum:

    - distribution of the desert tortoise,
    - general behavior and ecology of the tortoise,
    - sensitivity to human activities,
    - legal protection,
    - penalties for violations of State or Federal laws,
    - reporting requirements, and
    - project protective mitigation measures.

53. Only biologists authorized by the USFWS, CDFG, and the BLM shall handle desert tortoises. The BLM or project proponent shall submit the name(s) of proposed authorized biologist(s) to the USFWS for review and approval at least 15 days prior to the onset of activities.

- No activities shall begin until an authorized biologist is approved. Authorization for handling shall be granted under the auspices of the Section 7 consultation.
- An "authorized biologist" is defined as a wildlife biologist who has been authorized to handle desert tortoises. An authorized biologist must be approved by the USFWS, the Department of Fish and Game (CDFG), and the BLM

54. The area of disturbance shall be confined to the smallest practical area, considering topography, placement of facilities, location of burrows, public health and safety, and other limiting factors.

- Work area boundaries shall be delineated with flagging or other marking to minimize surface disturbance associated with vehicle straying. Special habitat features, such as burrows, identified by the qualified biologist shall be avoided to the extent possible.
- To the extent possible, previously disturbed areas within the project site shall be utilized for the stockpiling of excavated materials, storage of equipment, and location of office trailers and parking of vehicles. The qualified biologist, in consultation with the project proponent shall ensure compliance with this measure.

55. Where practical, no access road shall be bladed to the project site.

- For development activities, a short driveway (no more than 0.3 miles) from the nearest access road may be constructed if necessary.
- To the extent possible, access to the project site shall be restricted to designated "open" routes of travel.
- A qualified biologist shall select and flag the access route, whether cross-country or bladed, to avoid burrows and to minimize disturbance of vegetation.

56. Where activities are to extend over an extended period of time and where the project site is in tortoise habitat, the entire site shall be enclosed within a tortoise-proof fence.

- The fence shall be constructed under the direction of a qualified biologist. The fence shall be located to avoid all tortoise burrows;
- to the extent possible, burrows shall be placed on the outside of the exclosure.
- The fence shall be constructed of hardware cloth with a 1/2- inch mesh size unless changed through future recommendations of the desert tortoise Management Oversight Group.
- It shall extend 18 inches above ground and 12 inches below ground.

- Where burial of the fence is not possible, the lower 12 inches shall be folded outward against the ground and fastened to the ground so as to prevent tortoise entry.
- The fence shall be supported sufficiently to maintain its integrity.
- Gate(s) shall be tortoise-proof. This gate shall remain closed except for the immediate passage of vehicles.
- The fence shall be checked at least monthly and maintained when necessary by the project proponent to ensure its integrity.

57. For temporary (defined herein as activities of 90 days or less) activities, a temporary fence shall be erected around the area of activity.

- The fencing shall be 1/2-inch mesh hardware cloth supported by steel t-posts.
- The fencing shall be at least 18 inches high but need not be buried.
- Provisions shall be made for closing off the fence at the point of vehicle entry.
- Placement and erection of the fencing shall be approved and inspected by a qualified biologist.
- All tortoise- proof fencing shall be removed after site rehabilitation.

58. After fence installation, the authorized biologist shall conduct a thorough survey for tortoises within the project area.

- All tortoises found shall be given a temporary mark (see measure h) and removed from the exclosure and placed outside the nearest fence.
- If the removal is during the season of above-ground activity, the tortoises shall be placed beside a nearby burrow of appropriate size.
- If the removal is not in the season of above- ground activity, the tortoise shall be moved (dug out of burrow if necessary) on a seasonably warm day and placed at the mouth of a nearby burrow of appropriate size.
- If the tortoise does not enter the burrow, an artificial burrow may be needed.
- The authorized biologist shall be allowed some judgement and discretion to ensure that survival of the tortoise is likely.

59. Desert tortoises moved from within a fenced site shall be marked for future identification in the event that a dead tortoise is found later in the project area.

- An identification number using the acrylic paint/epoxy covering technique shall be placed on the fourth left costal scute as described in Handling Protocol sections of the "Protocols for Handling Live Tortoises" prepared by the Arizona Game and Fish Department and others in 1990.
- 35-mm slide photographs of the carapace, plastron, and the fourth costal scute shall be taken.

- No notching is authorized.

60. Desert tortoises may be handled only by the authorized biologist and only when necessary. In handling desert tortoises, the authorized biologist shall follow the techniques for handling desert tortoises in "Guidelines for Handling DesertTortoises during Construction Projects" (Desert Tortoise Council 1996).

61. The authorized biologist shall maintain a record of all desert tortoises handled. This information shall include for each tortoise:

- the locations (narrative and maps) and dates of observations;
- general condition and health, including injuries and state of healing and whether animals voided their bladders;
- location moved from and location moved to;
- diagnostic markings (i.e., identification numbers or marked lateral scutes);
- slide photograph of each handled desert tortoise as described in a previous measure.

62. No later than 90 days after completion of construction or termination of activities, the FCR and authorized biologist shall prepare a report for the BLM. The report shall document the effectiveness and practicality of the mitigation measures, the number of tortoises excavated from burrows, the number of tortoises moved from the site, the number of tortoises killed or injured, and the specific information for each tortoise as described previously.

- The report may make recommendations for modifying the stipulations.to enhance tortoise protection or to make it more workable.
- The report shall provide an estimate of the actual acreage disturbed by various aspects of theoperation.

63. Upon locating a dead or injured tortoise, the project proponent or agent is to notify the BLM Field Office.

- The BLM must then notify the appropriate field office (Carlsbad or Ventura) of the USFWS by telephone within three days of the finding.
- Writtennotification must be made within five days of the finding, both to the appropriate USFWS field office and to the USFWS Division of Law Enforcement in Torrance.
- The information provided must include the date and time of the finding or incident (if known), location of the carcass or injured animal, a photograph, cause of death, if known, and other pertinent information.
- An injured animal shall be transported to a qualified veterinarian for treatment at the expense of the project proponent. If an injured animal recovers, the appropriate field office of USFWS should be contacted for final disposition of the animal.
- The BLM shall endeavor to place the remains of intact tortoise carcasses with educational or research institutions holding the appropriate State and Federal permits per their instructions. If such institutions are not available or the animal's remains are in poor condition, the information noted above shall be obtained and the carcass left in place. If left in place and sufficient

pieces are available, the BLM (or its agent) shall attempt to mark the carcass to ensure that it is not reported again. Arrangements for disposition to a museum shall be made prior to removal of the carcass from the field.

64. Workers shall inspect for tortoises under a vehicle prior to moving it. If a tortoise is present, the worker shall carefully move the vehicle only when necessary and when the tortoise would not be injured by moving the vehicle or shall wait for the tortoise to move out from under the vehicle.

65. No dogs shall be allowed at a work site in desert tortoise habitat.

66. All trash and food items shall be promptly contained within closed, raven-proof containers. These shall be regularly removed from the project site to reduce the attractiveness of the area to ravens and other tortoise predators.

67. Project proponents shall stockpile any vegetation grubbed or bladed from the project site and access road.

- Following completion of the project, the access road and project site (if a temporary disturbance) shall be recontoured to approximate pre-project condition and the stockpiled vegetation randomly spread across the recontoured area. [Due to the variation in substrate types, additional revegetation measures (e.g., imprinting, reseeding) shall be considered.]
- After site rehabilitation, all tortoise-proof fence shall be removed.

68. Compensation for loss of habitat shall be required according to BLM requirements. Current requirements are based on a formula presented in the California Statewide Desert Tortoise Management Policy (BLM 1992). For the purposes of this consultation, changes to the compensation formula must be reviewed and approved by the USFWS. The project proponent shall either 1) acquire the compensation lands and deliver the deed to the BLM; 2) provide adequate funds, to be determined by the BLM, to the BLM for the acquisition of compensation lands or for other activities approved by the USFWS; or 3) make permanent improvements to tortoise habitat upon agreement of the USFWS and the BLM. Lands to be acquired must be within Category I or II of the same tortoise management unit. If acquiring lands (option 1 above), the project proponent must work closely with the BLM in selecting the lands most benefitting the conservation and recovery efforts. Compensation requirements must be met prior to project field activities.

69. Explosives may be used only outside of tortoise critical habitat and only if less than 2 acres of habitat will be affected. [If necessary, as determined in verbal discussions with the USFWS, seasonal restrictions may be imposed on the use of explosives. In addition, it may be necessary to temporarily remove desert tortoises from areas at risk during detonation from either the blast or from thrown material.)

All handling of desert tortoises shall be conducted as described in previous measures. Alternatively, it may be adequate to cover desert tortoise burrows to reduce impacts from flying materials. Other measures might be developed by the BLM or the USFWS.

Advisory

1. Actions other than those explicitly approved by the Bureau of Land Management which result in impacts upon archaeological resources, shall be subject to the judicial proceedings of the Archaeological Resources Protection Act of 1979, as amended, and the Federal Land Policy and Management Act of 1976. As property of the United States, no person may, without authorization, excavate, remove, damage, or otherwise alter or deface any historic or prehistoric site, artifact, or object of antiquity located on public lands.

2. The desert tortoise was listed as an endangered species by the U.S. Fish and Wildlife Service through an emergency action in August 1989, and is now listed as a threatened species effective April 2, 1990. It receives the same protection with its threatened status as it had as an endangered species. Handling or harassment of tortoises is prohibited as a result of its endangered/threatened status. Such activities not only jeopardize the tortoise's well being, but can result in significant fines ($100,000 and/or 6 months imprisonment).

3. Wild horses and burros are protected by Federal law. It is illegal to harass, capture, injure, or kill wild horses or burros.

4. This Action is subject to valid existing rights.

5. The Bureau of Land Management (BLM) retains the right to occupy and use the right-of-way and to issue or grant rights-of-ways or, other land uses, upon, over, under, and through the lands, provided that the occupancy and use will not reasonably interfere with the rights granted herein.

CDFW

Streambed Alteration Agreement

Notification Package

Ash Hill Communication Site Project

Attachment E. Other Documents

E2. Biological Assessment and Desert Tortoise Survey Report (2017)

ASH HILL COMMUNICATIONS SITE ACCESS ROUTE BIOLOGICAL RESOURCES ASSESSMENT AND DESERT TORTOISE FOCUSED SURVEY REPORT

Submitted to:
InterConnect Towers, LLC
27762 Antonio Parkway, L1-471
Ladera Ranch, California 92694

Contact: Tom Gammon
202-255-7777

Submitted by:
Amec Foster Wheeler, Inc.
3120 Chicago Avenue, Suite 110
Riverside, California 92507

Contact: John F. Green, Senior Biologist
(951) 369-8060, john.green@amecfw.com

4 December 2017

Amec Foster Wheeler Project Number
1755100001.0001

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ACRONYMS AND ABBREVIATIONS

%	percent
~	equivalent to
ACEC	Area of Critical Environmental Concern
Amec Foster Wheeler	Amec Foster Wheeler Environment and Infrastructure, Inc.
BLM	Bureau of Land Management
BNSF	Burlington Northern Santa Fe
BSA	Biological Survey Area
CA	California
CDCA	California Desert Conservation Area
CDFW	California Department of Fish and Wildlife
CMA	Conservation Management Action
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
DRECP	Desert Renewable Energy Conservation Plan
ERMA	Extensive Recreation Management Area
ESA	Endangered Species Act
FCR	field contact representative
I-40	Interstate Highway 40
ICT	InterConnect Towers LLC
LUPA	Land Use Plan Amendment
MBTA	Migratory Bird Treaty Act
MUC	Multiple Use Class
NCL	National Conservation Lands
NEMO	Northern and Eastern Mojave
NEPA	National Environmental Policy Act
project	multi-carrier communications facility
SCG	Southern California Gas Company
U.S.	United States
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

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1.0 BACKGROUND

InterConnect Towers LLC (ICT) has proposed the construction, operation and maintenance of a multi-carrier communications facility (project) east of Ludlow in southeastern California (see Figure 1). A right-of-way and site lease has been requested from the Needles Field Office of the Bureau of Land Management (BLM) to locate this project on BLM managed public lands within the boundary of the Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment (LUPA) to the California Desert Conservation Area (CDCA), as amended.

The proposed communication site would be located on BLM managed public lands south of Interstate Highway 40 (I-40), northeast of National Trails Highway (Route 66) and north of the east-west oriented Burlington Northern Santa Fe (BNSF) railroad (see Figure 2). The I-40 right-of-way fence is located immediately north of the proposed communications site. The involved public lands have been designated Multiple Use Class (MUC) Limited ("L") and are situated in a utility corridor outlined in the CDCA Plan (BLM 1999). The CDCA Plan allowed for the development of new communication sites on Class L lands in designated areas and after study in an Environmental Assessment (BLM 1999). Under the DRECP, the proposed communication site and access route are not in a Development Focus Area (reserved for renewable energy development), a Special Recreation Management Area or an Extensive Recreation Management Area but are within the Bristol Mountains Area of Critical Environmental Concern (ACEC), California Desert National Conservation Lands (NCL) and the Mojave Trails National Monument.

The communications site and an alternate access route were previously surveyed by Amec Foster Wheeler Environment and Infrastructure, Inc. (Amec Foster Wheeler) in 2010 for desert tortoise (*Gopherus agassizii*) and other biological resources. For this report, Amec Foster Wheeler biologists were tasked to survey the new access route and a 100-foot buffer around it for desert tortoise (tortoise, desert tortoise) and other biological resources (see Appendices E and F). Collectively, this area is referred to as the Biological Survey Area (BSA), and included most of the communications site footprint as well.

The route consists of a series of existing unpaved BLM designated open access routes/roads beginning at Route 66, and crossing under the BNSF railroad, with the final segment terminating at the proposed site. The roads include BLM Routes NS0017 and NS0003. These two roads will provide vehicular access via an approximately 5.2 mile route (see Figure 2). The proposed access route is all located on BLM land. The approximately 2.1 mile east-west segment of NS0003 paralleling I-40 is annually maintained by the Southern California Gas Company (SCG) in association with a pipeline buried immediately south of this road. An approximately 300-foot portion of the proposed NS0017 route is currently impassable to vehicles due to water damage. This area is in and adjacent to the bank of a wash north of the BNSF railroad undercrossing and approximately 100-feet northeast of the historic Atchison, Topeka & Santa Fe railroad alignment.

The communications site is located in Section 11, Range 9 East, Township 7 North of the Ash Hill, CA 7.5 minute United States Geological Survey (USGS) quadrangle (see Figure 2). From there, the access route crosses portions of Sections 10, 11, and 12 where it enters the Siberia, CA quadrangle. It then crosses a portion of Section 13 and reenters the Ash Hill quadrangle where

it crosses portions of Sections 24, 23, 26 and 22 before reaching Route 66. Elevation ranged from approximately 1,760 to 2,060 feet (535 to 630 meters) above mean sea level.

Project-related activities have the potential to impact biological resources in the BSA due to soil surface disturbance, the crushing/removal of native vegetation, the possible destruction or disturbance of animal burrows and/or bird nests, and disturbance to various wildlife species through vehicular and pedestrian access, material storage, work staging and facility operation/maintenance activities.

Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/29/2017 Basemap Source: ESRI Streets Maps

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Regional and Vicinity Map

Ash Hill Communications Site Access Route

FIGURE 1

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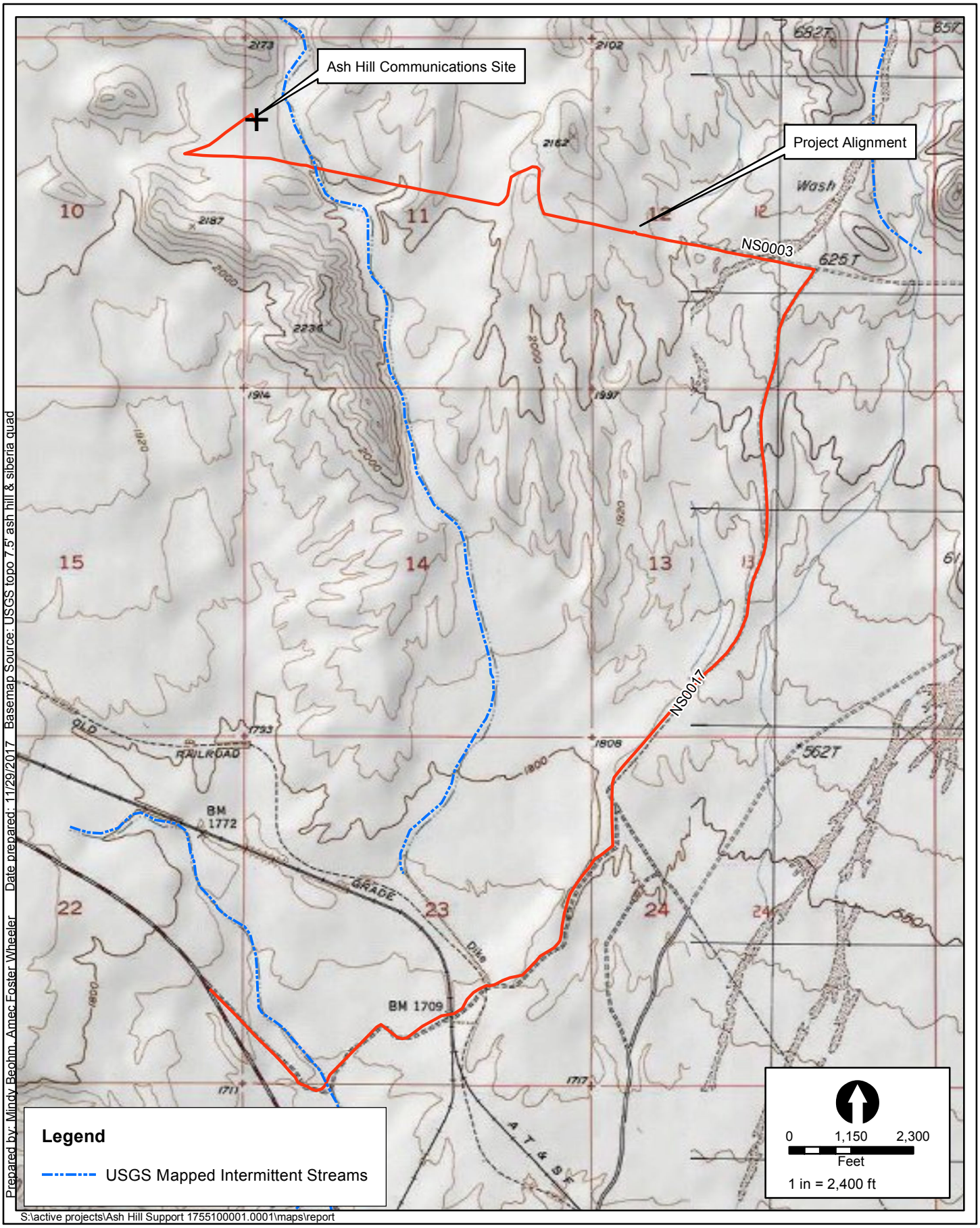

Topographic Map

Ash Hill Communications Site Access Route

FIGURE 2

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2.0 REGULATORY FRAMEWORK

2.1 Federal

Endangered Species Act (ESA) – The United States Fish and Wildlife Service (USFWS) is the designated federal agency accountable for administering the ESA. The ESA defines species as "endangered" or "threatened" and provides regulatory protection at the federal level.

- Section 9 of the ESA prohibits the "take" of listed (i.e., endangered or threatened) species. The ESA definition of take is "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct." Recognizing that take cannot always be avoided, Section 10(a) includes provisions for take that is incidental to, but not the purpose of, otherwise lawful activities. Specifically, Section 10(a) (1) (A) permits (authorized take permits) are issued for scientific purposes. Section 10(a) (1) (B) permits (incidental take permits) are issued for the incidental take of listed species that does not jeopardize the species.
- Section 7 (a) (2) requires federal agencies to evaluate the proposed project with respect to listed or proposed listed, species and their respective critical habitat (if applicable). Federal agencies must employ programs for the conservation of listed species and are prohibited from authorizing, funding, or carrying out any action that would jeopardize a listed species or destroy or modify its "critical habitat."

As defined by the ESA, "individuals, organizations, states, local governments, and other non-federal entities are affected by the designation of critical habitat only if their actions occur on federal lands, require a federal permit, license, or other authorization, or involve federal funding."

Migratory Bird Treaty Act (MBTA) – Treaties signed by the U.S., Great Britain, Mexico, Japan, and the republics of the former Soviet Union make it unlawful to pursue, capture, kill, and/or possess, or attempt to engage in any such conduct to any migratory bird, nest, egg or parts thereof listed in this document. As with the ESA, the MBTA also allows the Secretary of the Interior to grant permits for the incidental take of these protected migratory bird species. Impacts include direct disturbance to/destruction of nests, eggs, and birds as well as indirect effects such as loud construction noises (e.g., drilling, operation of heavy equipment, etc. in excess of 60 dB over an hour at the nest site) and increased site activities (e.g., moving vehicles, use of guard dogs, presence of personnel) in close proximity to active nests.

National Environmental Policy Act (NEPA) – Portions of the proposed project could fall under the jurisdiction of a federal agency (i.e., BLM). NEPA establishes certain criteria that must be adhered to for any project that is "financed, assisted, conducted or approved by a federal agency." The federal lead agency is required to "determine whether the proposed action will significantly affect the quality of the human environment."

Section 404 of the Clean Water Act – This section of the Clean Water Act, administered by the U.S. Army Corps of Engineers (USACE), regulates the discharge of dredged and fill material into waters of the U.S." The USACE has created a series of nationwide permits that authorize certain

activities within waters of the U.S. provided that the proposed activity does not exceed the impact threshold for each of the permits, takes steps to avoid impacts to wetlands where practicable, minimize potential impacts to wetlands, and provide compensation for any remaining, unavoidable impacts through activities to restore or create wetlands. For projects that exceed the threshold for nationwide permits, individual permits under Section 404 can be issued.

3.0 METHODOLOGY

Prior to undertaking the biological resources survey of the BSA, a literature review and records search was conducted to identify potential special status biological resources and hydrology in the project vicinity. The following primary sources were used to gather environmental, geographical, and planning data:

- The biological report previously prepared for this project (AMEC 2011)
- The California Department of Fish and Wildlife's (CDFW) California Natural Diversity Data Base (CNDDB) Rarefind 5 application (CDFW 2017a) for a five mile area around the BSA.
- California Native Plant Society (2017) Inventory of Rare, Threatened, and Endangered Plants of California.

A full list of references can be found in Section 7.0.

On 18-19 October 2017, a team of Amec Foster Wheeler biologists conducted a focused desert tortoise survey of the access route and a 100-foot buffer around it. This included the recording of all detectable plant and vertebrate animal species, and recording the location of obvious drainages which cross the access route. The survey was conducted by walking 10 meter (~30 foot) width belt transects across the entire designated survey area following the protocol for desert tortoise (USFWS 2010) and transects of each road shoulder (see Appendix D). Representative photos were taken (see Appendix A).

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4.0 RESULTS

4.1 Critical Habitat

No federally designated critical habitat for desert tortoise or any other species was identified within the BSA (see Figure 3).

4.2 Areas of Critical Environmental Concern

The BSA is within the Bristol Mountains ACEC (see Figure 4). This ACEC was designated in the DRECP LUPA (BLM 2016). The Bristol Mountains ACEC lands link the Cady Mountain Wilderness Study Area and the Bristol Mountains, Kelso Dunes, Trilobite, and Clipper Mountains wilderness areas with Mojave National Preserve. The ACEC also connects with the Pisgah ACEC on the west and the Chemehuevi ACEC on the east. This creates a contiguous conservation area which encompasses a transition zone between both Mojave and Sonoran/Colorado Desert ecosystems. The area has some of the best tortoise habitat in the southeast Mojave Desert (Appendix B of BLM 2016). The transitional ecosystem attracts a variety of birds including sensitive species such as prairie falcons and burrowing owls. Numerous rare and sensitive plants inhabit the area. This area has critical wildlife movement corridors that maintain connections for regional metapopulations. The area has high scientific values due to the transition between desert ecosystems and the associated adaptations of plants and animals. These lands are within the recently designated Mojave Trails National Monument, which also protects sensitive biological resources.

Relevant biological resources include wildlife and plant assemblages. The area is high value for desert tortoise habitat and connectivity between the Ord-Rodman and Chemehuevi ACECs. Additionally, the area is critically important for bighorn sheep, burrowing owl, and several bat species. Some areas within the ACEC provide a combination of meteorological, geological, hydrological, topographical features that have been identified as important climate refugia for wildlife species.

The overarching goals for this ACEC are to protect biological values, including habitat quality, populations of sensitive species, and landscape connectivity while providing for compatible public uses. Where the Conservation Management Actions (CMAs) in the ACEC Special Unit Management Plan (Appendix B of BLM 2016) conflict with the CMAs included in the LUPA, the more restrictive CMA would be applied (i.e., management that best supports resource conservation and limits impacts to the values for which the conservation unit was designated), unless otherwise specified. Most of the ACEC is included in the California Desert NCL. Appropriate multiple uses will be allowed, consistent with the Special Unit Management Plan and the CMAs in the LUPA.

Management direction for the ACEC allows for new land use authorizations to be analyzed on a case-by-case basis to assess whether they are compatible with the ACEC and its management goals. Disturbance is capped at 0.5% - 1% of the ACEC area. Land use authorizations that may impair wildlife connectivity are not to be approved.

4.3 Existing Surface Disturbance

The project would utilize existing designated open routes and areas within existing ground disturbance. The approximately 2.1 mile portion of NS0003 adjacent to the SCG pipeline appears to be regularly graded and used for thoroughfare travel purposes. Excavated soil mounds from past road and/or pipeline work were obvious along this portion of the route. The NS0017 portion of the access road is less traveled and less maintained with more rocks, potholes, etc. No ground disturbance will take place at or within routes NS0017 and NS0003, aside from that created by continued vehicular access and hauling construction equipment to the proposed communication tower site, as well as limited, necessary road repairs of a 300 foot stretch of route NS0017 located 100 feet northeast of the historic Atchison, Topeka & Santa Fe railroad alignment. Also, light smoothing of routes NS0017 and NS0003 may be necessary following heavy rains.

4.4 Soils

Two soil associations are mapped along the access route (see Figure 5): the “Rock Outcrop-Upspring-Sparkhule” and “Nickel-Bitter-Arizo” Associations. As their name implies, each of these consists of three soil series, as described below.

The Sparkhule series consists of shallow, well drained loamy soils that formed from volcanic or granitic rocks. Sparkhule soils are on rock pediments and hills and have slopes of 5 to 50 percent. They have high to very high runoff and moderately slow permeability.

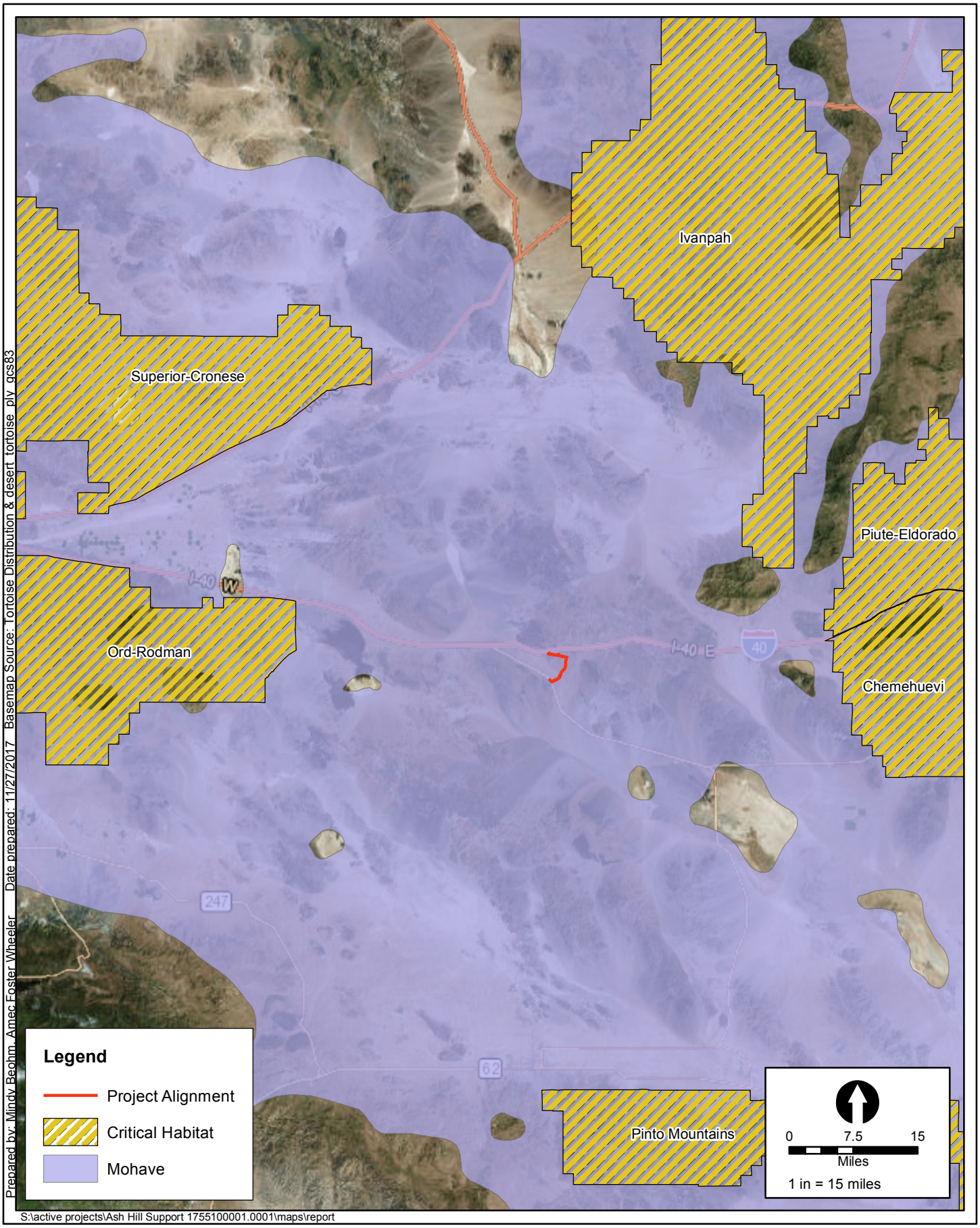
- The Upspring series consists of very shallow and shallow, somewhat excessively drained loamy soils formed in material weathered from extrusive basic igneous rocks and some
- pyroclastic material. Upspring soils are on hills, mountains, and plateaus and have slopes of 8 to 75 percent. They have high or very high runoff and moderately rapid permeability over impermeable bedrock.

Rock outcrops are not actually a soil series, but instead are unweathered bedrock at slopes of 15 to 75 percent.

The Nickel series consists of very deep, well drained loamy soils that formed in alluvium from mixed rock sources. Nickel soils are on fan remnants. Slope ranges from 0 to 35 percent. They have very low to medium runoff and moderate permeability.

The Bitter series consists of deep, well drained loamy soils that formed in material weathered from granitic, gneiss, schist, limestone and quartzite alluvium. Bitter soils are on dissected old fan terraces and have slopes of 2 to 20 percent. They have medium runoff and moderately slow permeability.

The Arizo series consists of very deep, excessively drained sandy soils that formed in mixed alluvium. Arizo soils are on recent alluvial fans, inset fans, fan apron, fan skirts, stream terraces, and floodplains of intermittent streams and channels. Slope ranges from 0 to 15 percent. They have negligible to medium runoff.



Desert Tortoise Critical Habitat & Distribution/ Modeled Habitat Map

Ash Hill Communications Site Access Route

FIGURE 3

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Areas of Critical Environmental Concern (ACEC)
Ash Hill Communications Site Access Route

FIGURE
4

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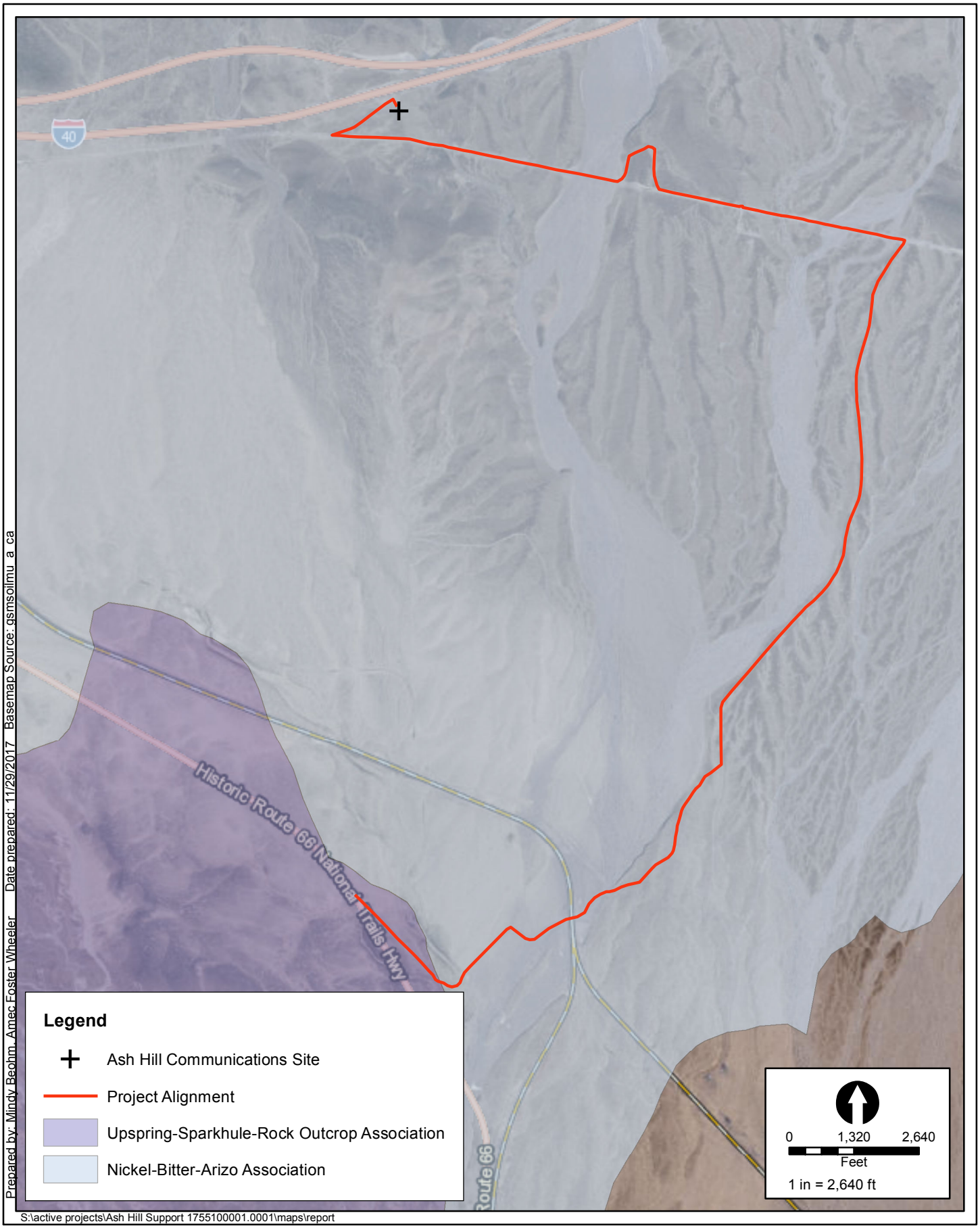

Soils Map

Ash Hill Communications Site Access Route

FIGURE 5

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None of these soils are specifically associated with special status species.

4.5 Hydrology

No surface water was encountered in the area and would only be expected temporarily following rain events. The access route is crossed by numerous southward trending drainages which are mapped in Appendix E. During and following rain events, road damage and impassability could potentially occur. Flow in drainage 3b has already caused an impassability issue where the access road climbs out of the wash (see page E-04 of Appendix E). To the north of the access route, a few large culverts and bridges are situated under I-40, allowing cross-freeway flow into the associated washes. If modifications to these washes are required in order to utilize the access roads, a jurisdictional delineation and permitting may be needed for potential impacts to federal jurisdictional waters.

4.6 Vegetation

Two relatively undisturbed native vegetation communities are mapped and present in the BSA (CDFW 2017c): Creosote Bush Mixed Scrub and Desert Wash Systems (Appendix F). In upland areas, a Creosote Bush Mixed Scrub community dominated by creosote bush (*Larrea tridentata*), white bur-sage (*Ambrosia dumosa*), and brittlebush (*Encelia farinosa*) is present. The upland areas are also interspersed with extensive areas of relatively unvegetated desert pavement. In the areas mapped as "Desert Wash Systems," species such as cheesebush (*Ambrosia salsola*), sweetbush (*Bebbia juncea* var. *aspera*), and catclaw (*Senegalia greggii*) are also dominants. The flora in the overall area is characterized by fairly short shrubs and wide interspaces between plants. Following adequate winter-spring (and occasionally, summer) rainfall, a light cover of annual forbs, wildflowers and short-lived grasses form within shrub interspaces and beneath shrub canopies in the area.

Besides those already mentioned, common perennial plants in the area included white rhatany (*Krameria bicolor*), smoke tree (*Psorothamnus spinosus*), pencil cactus (*Cylindropuntia ramosissima*), and rush milkweed (*Asclepias subulata*). Although the autumn time period of this survey meant that few annual plants were still living, we were able to identify several by their dried remains including desert plantain (*Plantago ovata*), spiny herb (*Chorizanthe rigida*), forget-me-not (*Cryptantha* ≥3 spp.), annual buckwheat (*Eriogonum* ≥2 spp.), and desert dandelion (*Malacothrix glabrata*). The non-native annual Mediterranean grass (*Schismus* sp.) was widespread, while the invasive, non-native Asian mustard (*Brassica tournefortii*) was found along roadsides nearer to Route 66. A complete list of plant species identified onsite is included as Appendix B.

4.7 Wildlife

Although the proposed communication site and access route footprint offer little in the way of wildlife habitat, they are surrounded by largely undisturbed natural habitat for a variety of terrestrial and avian species. I-40 presents a major impediment to animal (especially desert tortoise) movement from the north and the BNSF railroad forms an impediment to the south, but

culverts and bridges provide some limited safe travel corridors for wildlife species. Several wildlife species common to the region were recorded on lands situated adjacent to the proposed communications site and access route, and these species certainly cross the BSA in the course of their daily activities. Reptiles recorded during the survey effort included common side-blotched lizard (*Uta stansburiana*), zebra-tailed lizard (*Callisaurus draconoides*), and tiger whiptail (*Aspidoscelis tigris*). Avian species present included horned lark (*Eremophila alpestris*), rock wren (*Salpinctes obsoletus*), and common raven (*Corvus corax*). A verdin (*Auriparus flaviceps*) nest was observed in a tree near the proposed access route. Other migratory bird species are also expected to occur in the BSA and may construct nests adjacent to the proposed communications site and existing access route. Mammals or their sign detected in the area included white-tailed antelope squirrel (*Ammospermophilus leucurus*), black-tailed jackrabbit (*Lepus californicus*), and coyote (*Canis latrans*). A complete list of vertebrate animal species identified onsite is attached as Appendix C.

4.7.1 *Invasive Non-native Species*

No invasive and/or non-native animals were detected in the area proposed for surface disturbance or vehicle travel. As noted above, two non-native plant species were detected during the current survey effort: the well-established Mediterranean grass (*Schismus* sp.) and the very invasive Asian mustard (also known as Sahara mustard) which appears to be establishing itself on the periphery of the access route near Route 66.

4.7.2 *Special Status Elements*

Plant or animal taxa may be considered sensitive or special status due to declining populations, vulnerability to habitat change, or because they have restricted ranges. Some are listed as threatened or endangered by the USFWS and are protected by the ESA. Others have been identified as sensitive or as special status species by the USFWS, CDFW, or by private conservation organizations, including the California Native Plant Society (CNPS).

Habitat associations, natural history, seasonality, distribution, and the types of surveys conducted all affect the detectability of the various sensitive plants and animals known to occur throughout the region. For that reason, some special status species that were not observed in the BSA still have the potential to occur based on their geographic distribution, habitat preferences, and the regional location of the site. Appropriate seasonal focused surveys could more definitively determine their presence or absence.

The literature review and biological resources assessment resulted in the identification of 12 special status elements which were either observed in the BSA or had known records within an approximate five-mile radius of the site. These included four plants, two reptiles, four birds, and two mammals. Tables 1 through 4 provide a complete list of these sensitive biological resources, their associated status, their general habitat associations, and their respective potential to occur in the BSA based on geographic distribution, presence of potentially suitable habitat, best available information, and the collective expertise of Amec Foster Wheeler biologists. Those that

were encountered during the 2017 survey and those that were considered to potentially be present are discussed further following the table.

Table 1. Special Status Plants

Species	Status	Habitat	Probability
Coryphantha alversonii **foxtail cactus**	F = ND C = S3 CNPS = 4.3	Mojave and Sonoran desert scrub. 75 to 1,525 meters (m.). Blooms (B): April – June.	**Moderate** Suitable habitat present. Not detected, but no focused plant survey conducted.
Eriastrum harwoodii **Harwood's eriastrum**	F = BLM C = S2 CNPS = List 1.B2	Desert dunes; 125 - 915 m. B: March–June.	**Absent** No dunes
Funastrum utahense **Utah vine milkweed**	F = ND C = S4 CNPS = 4.2	Mojave and Sonoran desert scrub. 100 to 1,435 m. Blooms (B): (March) April-June (September-October).	**Moderate** Suitable habitat present. Not detected, but no focused plant survey conducted.
Saltugilia latimeri **Latimer's woodland-gilia**	F = BLM C = S3 CNPS = List 1B.2	Chaparral, Mojave desert scrub; pinyon and juniper woodland. 400-1,900 m. B: March – June.	**Moderate** Suitable habitat present. Not detected, but no focused plant survey conducted.

Table 2. Special Status Reptiles

Species	Status	Habitat	Probability
Gopherus agassizi **desert tortoise**	F: **THR** C: **THR**, S2	Creosote bush scrub, Joshua tree woodland, saltbush scrub; washes, arroyos, bajadas, rocky hillsides, open flat desert.	**Occurs** Fresh sign present
Uma scoparia **Mojave fringe-toed lizard**	F = BLM C = SSC, S3S4	Requires fine, loose, windblown sand interspersed with hardpan and widely spaced desert shrubs.	**Absent** Insufficient sand

Table 3. Special Status Birds

Species	Status	Habitat	Probability
Athene cunicularia **burrowing owl**	F = MBTA, BCC, BLM C = SSC, S2	Open, dry annual or perennial grassland, deserts & scrublands characterized by low-growing vegetation. Burrows essential.	**Moderate** Suitable habitat present. Not detected, but no focused owl survey conducted.
Falco mexicanus **prairie falcon**	F = MBTA, BCC C = SSC, S3	Breeding sites located on cliffs, but forages far afield.	**Occurs** Seen foraging onsite, nesting cliffs in the area.
Lanius ludovicianus **loggerhead shrike**	F = MBTA, BCC C = SSC, S4	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub & washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	**Occurs** Seen onsite, breeding habitat present
Polioptila melanura **black-tailed gnatcatcher**	F = MBTA C = WL, S3S4	Primarily inhabits wooded desert wash habitats; also occurs in desert scrub habitat, especially in winter.	**Occurs** Seen onsite, breeding habitat present

Table 4. Special Status Mammals

Species	Status	Habitat	Probability
Ovis canadensis nelsoni **desert bighorn sheep**	F: BLM C: FP, S3	Open, rocky, steep areas with available water and herbaceous forage.	**Low** Marginal habitat available along access route. Could potentially forage in area in wetter seasons.
Taxidea taxus **American badger**	F = ND C = SSC, S3	Inhabits areas herbaceous, shrub, and open stages of most habitats with dry, friable soils.	**High** Suitable habitat and potential burrows present.

Definitions of status designations and occurrence probabilities for Tables 1-4

Definitions of occurrence probability:

Occurs*:* Observed onsite by Amec Foster Wheeler personnel or recently reported onsite by another reliable source.

High*:* Observed in similar habitat in region by qualified biologists, or habitat onsite is a type often utilized by the species and the site is within the known range of the species.

Moderate*:* Reported sightings in surrounding region, or site is within the known range of the species and habitat onsite is a type occasionally used by the species.

Low*:* Site is within the known range of the species but habitat onsite is rarely used by the species

Absent*:* A focused study failed to detect the species, suitable habitat not present, or site is outside the geographic distribution of the species.

Unknown*:* No focused surveys have been performed in the region, species' distribution and habitat are poorly known.

Definitions of status designations and occurrence probabilities for Tables 1-4 (Continued)

Federal designations: (F = federal Endangered Species Act or USFWS designations)
END:Federally listed, Endangered
THR:Federally listed, Threatened
CAN:Candidate for Federal listing
MBTA: Migratory Bird Treaty Act
BEPA:Bald Eagle Protection Act (also protects Golden Eagles)
BCC:Birds of Conservation Concern
BLM: BLM Sensitive
ND:No designation

***State designations*:** (C = California Endangered Species Act or CDFW designations)
END:State listed, Endangered
THR:State listed, Threatened
CAN:Candidate for State listing
RARE:State listed, Rare
FP:Fully Protected Species
SSC:Species of Special Concern
WL:Watch List Species
ND:No designation

CDFW state rankings are a reflection of the overall condition of an element throughout its California range. The number after the decimal point represents a threat designation attached to the rank:
S1 = Critically Imperiled. Less than (<) 6 Element Occurrences (EOs) OR < 1,000 individuals OR < 2,000 acres
- **S1.1** = very threatened
- **S1.2** = threatened
- **S1.3** = no current threats known

S2 = Imperiled. 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres
- **S2.1** = very threatened
- **S2.2** = threatened
- **S2.3** = no current threats known

S3 = Vulnerable. 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres
- **S3.1** = very threatened
- **S3.2** = threatened
- **S3.3** = no current threats known

S4 = Apparently Secure. Uncommon but not rare in the state; some cause for long-term concern.
S5 = Secure. Common, widespread, and abundant in the state.
SH = All known California sites are historical, not extant

CNPS designations:
Primary Categories
LIST 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
LIST 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
LIST 2A: Plants Presumed Extirpated in California, But Common Elsewhere
LIST 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
LIST 3: Plants About Which More Information is Needed - A Review List
LIST 4: Plants of Limited Distribution - A Watch List
Subdivisions within Categories
0.1: Seriously threatened in California
0.2: Moderately threatened in California
0.3: Not very threatened in California

4.7.3 *Special Status Plant Species*

No special status plant species or Unusual Plant Assemblages were encountered during the 2010 or 2017 surveys, but the 2017 survey was not conducted during the season when these species would be most detectable. None of the potentially occurring special status plant species are state or federally listed as threatened or endangered.

4.7.4 *Desert Tortoise*

Although no live tortoises were directly observed during the 2017 survey, very recent sign such as fresh tracks was detected, as well as carcasses, burrows, and scat showing that the area is still occupied by the species (see Appendices D and G).

A large, herbivorous and long-lived reptile, the desert tortoise occurs in the Mojave and Sonoran Deserts, as well as in the northern Sinaloa region of Mexico (Boarman 2002). The Mojave population of the tortoise, i.e., those animals living north and west of the Colorado River in California, Nevada, Arizona, and southwestern Utah, has been designated as threatened (USFWS 1990; USFWS 1994a). Critical habitat for the Mojave population of the tortoise has also been designated.

The BSA is located outside of designated critical habitat for this listed population (USFWS 1994b), in an area modeled as potentially suitable habitat (see Figure 3). While the BSA was not previously categorized as tortoise habitat by BLM, a small area of BLM-Category III tortoise habitat occurs a few miles to the east (see Map Set A below, first map). The tortoise density within this BLM-Category III habitat area, as depicted in Map Set A below (second map), was at one time roughly estimated to range from 20 to 50 tortoises per square mile (BLM 1980). The Northern and Eastern Mojave (NEMO) Plan (BLM 2002a) identified the general region of the BSA as a recovery planning zone for the desert tortoise (see Map Set A below, third map). The DRECP (Appendix B of BLM 2016) states that the Bristol Mountains ACEC has some of the best, high value, tortoise habitat in the southeast Mojave Desert.

Tortoises occupy a variety of habitats from valleys, alluvial fans and bajadas dominated by creosote bush and saltbush scrub at lower elevations to rocky slopes supporting mixed Mojave scrub and Joshua tree woodlands (USFWS 1990). In general, tortoises occur on gently sloping terrain with sandy to gravel soils supporting low-growing shrubs and herbaceous plants, at elevations of 2,000-3,300 feet (Weinstein 1989). Soils must be friable enough for digging of burrows, but firm enough so that burrows do not collapse. On occasion, tortoises have also been recorded in rocky and lava areas bordering more typical alluvial fan and wash habitat.

Literature relating tortoise burrowing and use habits, along with at least one model (indicate that tortoises tend to favor southwest exposures and loamy soils, while avoiding stony soils and areas of low plant cover (Anderson et al. 2000). Tortoises typically avoid steep slopes and obstacles to free movement such as rocks and debris (Boarman 2002). Highways and railroads can also be formidable impediments to tortoise movement (USFWS 1990).

The outright loss of habitat and animal mortality/injury/removal, as well as degradation of habitat caused by livestock use, fire and off-road vehicle travel, poses a significant and increasing problem for the viability of tortoise populations (Boarman 2002). Vehicle use, surface grading, vegetation removal and excavation work are all known as potential sources of tortoise injury and mortality. Common raven predation of juvenile tortoises, as well as several diseases which may be exacerbated when tortoises are stressed and/or occupied habitat is degraded, have also been implicated as significant current impacts upon tortoise populations (USFWS 1994a, 2008).

Map Set A. The proposed Ash Hill Communications Site would be located west of a previously designated Category III desert tortoise habitat (first map; BLM 1988). The 1980 tortoise density within this categorized habitat was estimated to range from 20 to 50 tortoises per square mile (second map; BLM 1980). The recovery planning zone for the desert tortoise is shown on the third map (BLM 2002a).

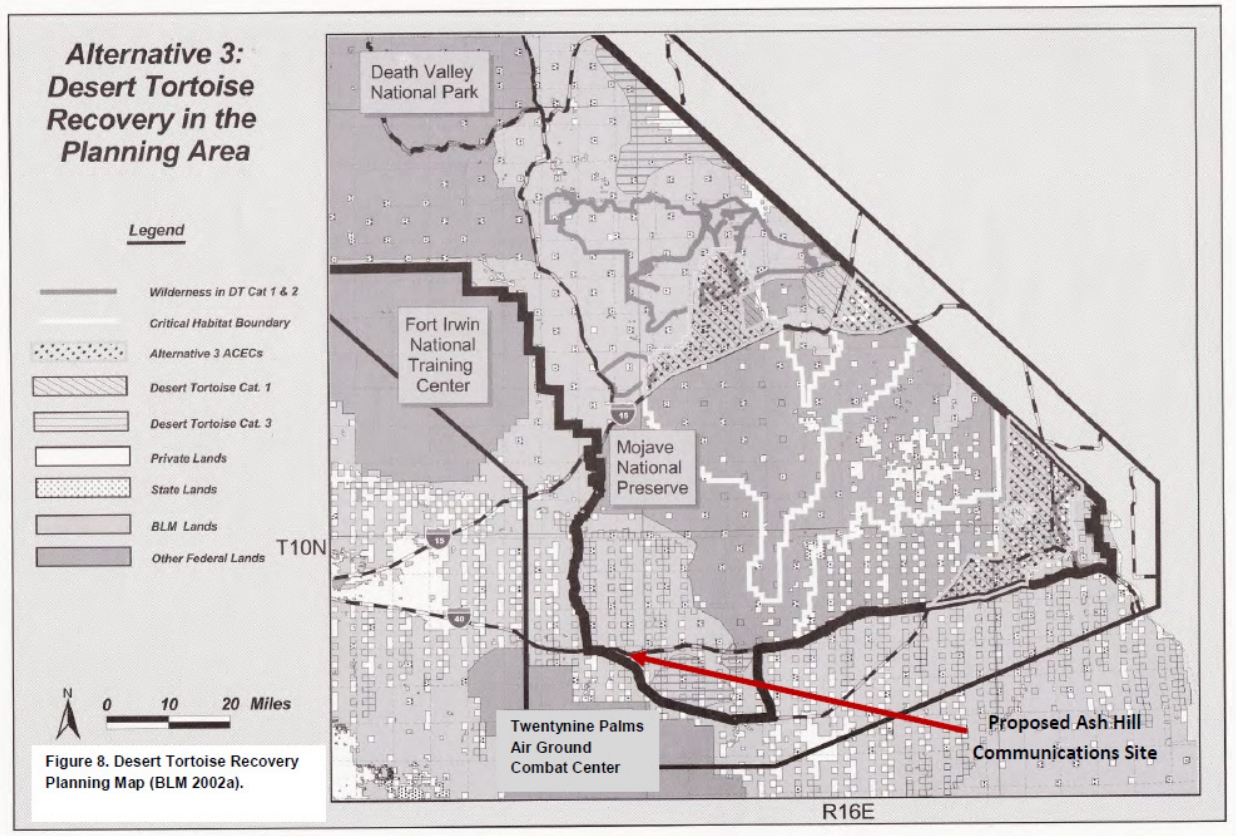
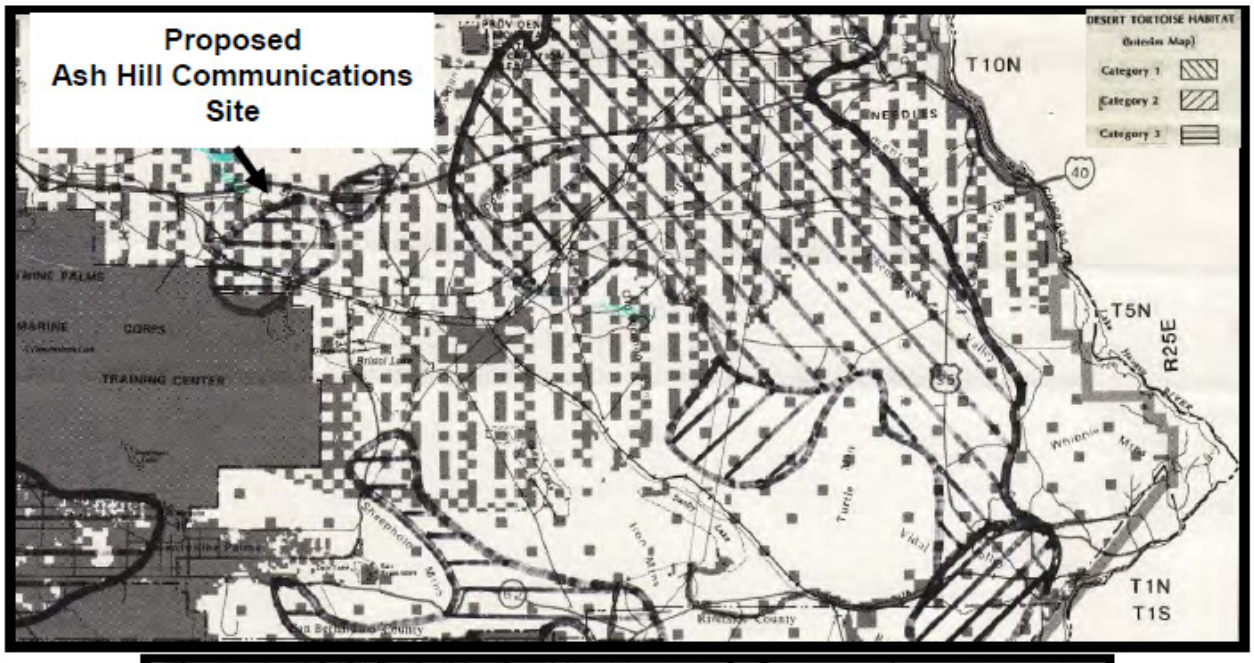
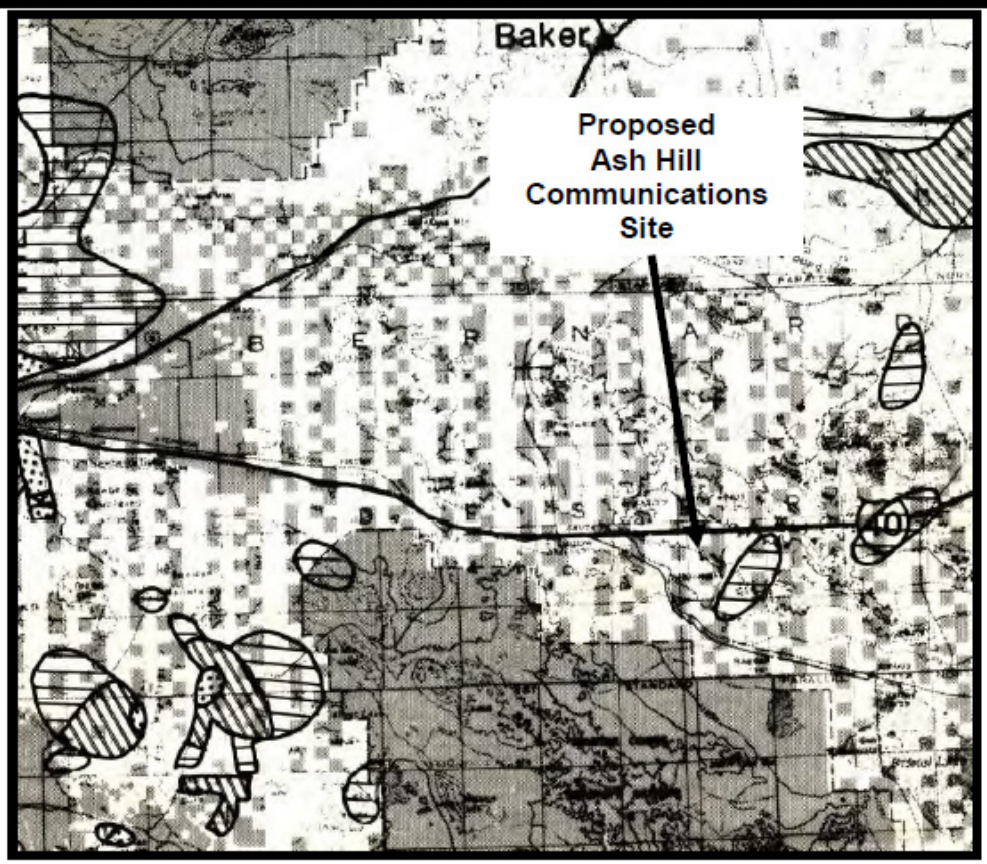


Figure 8. Desert Tortoise Recovery Planning Map (BLM 2002a).


Proposed
Ash Hill Communications
Site
DESERT TORTOISE HABITAT
Category 1
Category 2
Category 3
T10N
T5N
R25E
T1N
T1S
MARINE CORPS
TRAINING CENTER
NEEDLES
40
95


Baker
Proposed
Ash Hill
Communications
Site
BERNARDINO
15

4.7.5 *Burrowing Owl*

Garrett and Dunn (1981) indicate that the burrowing owl "is quite scarce in the northern deserts from the east Mojave Desert north through Inyo County" and that open desert is widely but sparsely populated. There is some winter movement of this owl species from northern areas into southern California, with a peak abundance noted in the agricultural areas of Imperial County (Campbell 1998). The species appears to have a tendency for coloniality and the dispersal of young, as well as seasonal migration, can result in occasional appearances of this owl anywhere within the species' general range.

The burrowing owl is generally found in open, dry and level grasslands, prairie and desert landscapes (Grinnell and Miller 1944). Vegetation density, prey, and suitably-sized burrow availability, as well as predation, have strong bearing on habitat selection by this species. The population in the western U.S. rarely construct their own burrows, instead generally occupying burrows constructed by other species such as ground squirrels, desert tortoise, coyote (*Canis latrans*), and kit fox (*Vulpes macrotis*). Man-made burrow sites such as banks and ditches, piles of broken concrete, and culverts are also occasionally used by burrowing owl.

The BSA is not known to support an owl breeding site or wintering area, but suitable habitat is present. No burrowing owls or their sign were encountered during the 2010 or 2017 surveys, but no focused survey was conducted. Although not state or federally listed as threatened or endangered, burrowing owls (*Athene cunicularia*) are treated differently than most unlisted birds because they are uniquely vulnerable to ground disturbance. This is because they both roost and nest underground.

4.7.6 *Other Special Status Bird Species*

Three special status bird species (prairie falcon, loggerhead shrike, and black-tailed gnatcatcher) were encountered along the access route, and all potentially nest in the area. None are state or federally listed as threatened or endangered, but like most native birds, all are protected by state code and the MBTA.

4.7.7 *Desert Bighorn Sheep*

Traditional taxonomy identifies four subspecies of bighorn sheep as occurring in the southwestern desert region, with desert bighorn sheep recognized as occurring in the Transverse Range and most California desert mountain ranges (Wehausen 1998). Three desert bighorn sheep metapopulations are commonly recognized in the Mojave Desert region: the south, central and north Mojave Desert metapopulations (Torres et al. 1994, 1996). The fenced I-40 and Interstate Highway 15 generally form the geographic boundaries of these metapopulations.

Within the desert, bighorn sheep have been noted to prefer visually open, often steep and rocky terrain on or near mountain above the desert floor (Wehausen 1998). Considerable movement of bighorn sheep populations between mountain ranges has been confirmed through telemetry studies and within individual mountain ranges populations are generally small. The species could potentially enter the BSA, as it is known to occur in the Bristol and Old Dad Mountains located

north of I-40, as well as in the Bullion Mountains southwest of Highway 66, but is not expected as a permanent resident. This subspecies is not state or federally listed as threatened or endangered, but is “fully protected” by the state. No bighorn sheep or their sign were encountered during the 2010 or 2017 surveys.

4.7.8 *American Badger*

There is a high probability that the American badger occurs in the BSA. Potentially suitable burrows were seen. This species is not state or federally listed as threatened or endangered.

5.0 RECOMMENDED MITIGATION MEASURES FOR THE PROJECT

Although the 2017 survey was focused on the new proposed access route, the BSA included most of the communications site footprint as well, so the recommendations previously made for that site are included here as well.

5.1 Plants

Extensive previous surface disturbance has removed most vegetation from the proposed communication site area. The less utilized portions of the access route, south of the gas pipeline road/NS0003, contain some vegetation. No yuccas, trees, cacti, special status, or succulent plants are expected to be impacted provided that project activity is confined to the existing access roads and the disturbed project site.

5.1.1 *Non-native Invasive Plant Risk Assessment*

While no invasive plant species were noted at the proposed communication site itself, the invasive non-native Asian (Sahara) mustard is present along the southerly access route, near Route 66. No plants designated as noxious are known to occur in the proposed action vicinity.

The seeds of invasive plants can be transported by vehicles along access roads and in construction areas, where suitable germination potential occurs. Larger populations of invasive plants are often found along transportation corridors, where they become first established in the under-story of certain shrubs. Following wet winter conditions, many such invasive plant species can become more established in Mojave Desert upland habitats. Any disturbance within native plant communities can and does present opportunities for subsequent invasive weed infestation. Established non-native plants often spread invasively in disturbed soil surface areas and can subsequently establish themselves outside of these disturbance zones.

In certain circumstances, established invasive plants can increase wildfire fuel loads. Several wildfires are known to have occurred along transportation corridors in the Mojave Desert, where this fuel loading likely influenced the rate and extent of fire spread (BLM 2005).

Soil disturbance in the immediate vicinity of the proposed communication site is unlikely to provide much additional germination area for invasive plant species. A concrete pad would be installed in most of the heavy equipment construction zone; eliminating suitable soils for plant germination. However, some minor weed establishment, including potentially invasive plant species, may occur along the edges of the constructed concrete pad following adequate rainfall. Operation and maintenance of this facility will continue to provide opportunities for invasive weed species, as will road maintenance. The following measures will help minimize and mitigate the spread of invasive plants.

1. ICT shall limit the size of any vegetation and/or ground disturbance to the absolute minimum necessary to perform the activity safely and as designed. ICT will avoid creating soil conditions that promote weed germination and establishment.

2. ICT shall begin project operations in weed-free areas whenever feasible before operating in weed-infested areas.
3. ICT shall locate equipment storage, machine and vehicle parking or any other area needed for the temporary placement of people, machinery, and supplies in areas that are relatively weed-free. ICT shall avoid or minimize all types of travel through weed-infested areas or restrict major activities to periods of time when the spread of seed or plant parts are least likely.
4. BLM or ICT shall determine equipment-cleaning sites (for when equipment is contaminated with weed seeds, plant parts, or soil). Project related equipment and machinery, including the nooks and crannies of undercarriages, will be cleaned using compressed air or water to remove mud, dirt and plant parts before moving into and from relatively weed-free areas. Seeds and plant parts will be collected, bagged, and deposited in dumpsters destined for local landfills, when practical. Such cleaning will be done prior to entry to the access route or site unless contamination has occurred onsite.
5. ICT personnel shall inspect, remove, and dispose of weed seed and plant parts found on their clothing and personal equipment, bag the product, and dispose of in a dumpster for deposit in local landfills.
6. ICT shall evaluate options, including area closures, to regulate the flow of traffic on-site where native vegetation needs to be established.
7. Operation and maintenance of this facility will continue to provide opportunities for invasive weed species. ICT will contact BLM about any weed invasions on the project footprint and will work with the BLM to control such weed populations.

5.2 Wildlife

Although the proposed communication site and access route offer little in the way of wildlife habitat, they are surrounded by a largely undisturbed native plant community which provides habitat for a variety of terrestrial and avian species. Little to no wildlife impacts are expected relative to surface disturbance and construction activities proposed for the project, provided that work remains inside the identified disturbed communication site and existing roadbed. Very little vegetative cover and available habitat would be affected in the proposed construction zone. Small mammals and reptiles are unlikely to be significantly affected by the proposed action; as little if any vegetation, burrows or habitat components which this fauna may be dependent on would be removed or disturbed. Larger mammals are also not expected to be affected by the proposed action; as little or no habitat components would be lost. No significant reduction of any territory or wildlife corridor would occur. In addition, the measures for the protection of desert tortoise below will reduce potential impacts to other wildlife species.

5.2.1 *Migratory Birds*

Migratory birds are known to forage and nest in the vicinity. Those birds which utilize habitat on adjacent lands for nesting purposes are protected under the MBTA and state code. Direct and indirect impacts to nesting birds can be minimized or eliminated by conducting work outside of

the local breeding season. Within the BSA, breeding activity is expected to occur between 1 February and 31 August. Work from about 1 September through 31 January would therefore be expected to avoid nesting activity. If work must be done during the breeding season, potential nesting areas should be examined by a qualified biologist prior to disturbance, especially where there could be any direct impacts. While there is no established protocol for nest avoidance, when consulted, the CDFW generally recommends avoidance buffers of about 500 feet for raptors and threatened/endangered species and 100 – 300 feet for other birds. If active nests are found, they should be avoided until young have fledged. This distance for avoidance buffers is directly related to the disturbance tolerance of each individual species. Listed species and/or species with a very low tolerance for disturbance will have a much larger avoidance buffer. Species with a high disturbance tolerance will have a much shorter avoidance buffer. The use of visual and/or noise attenuation barriers when adjacent to nesting habitat or known nests may allow such buffers to be reduced or eliminated.

5.2.2 *Desert Tortoise*

The 2017 survey indicates that desert tortoise is present in the area along the proposed access route. Although impediments to tortoise movement exist in the area, they do not prevent the potential for tortoise travel onto the proposed access road and communication site. Should tortoises occur on the access road or communication site during construction, equipment delivery, or road maintenance activities, potential exists for them to be adversely affected.

These adverse effects could include harassment through handling and moving tortoises out of harm's way (if authorized by BLM in compliance with an incidental take permit and biological opinion issued by USFWS), as well as injury or mortality associated with vehicle travel and heavy equipment operations in the BSA. Specific mitigation measures are proposed below to reduce the potential for incidental take of tortoises during vehicle use and equipment operations to negligible levels.

Improper disposal of trash items and food during proposed construction work could indirectly provide nest materials and food for predators, including the common raven (BLM 2005). Ravens are known to prey upon juvenile tortoises in certain circumstances (Boarman and Berry 1995). The communications site tower itself could also serve as a nest and perching site for ravens (BLM 2005), as could the roofs of the communications site building.

Best management practices and mitigation measures proposed below would minimize potential raven/predator attractants associated with the proposed action. Measures to address the potential construction of raven nests on the proposed communication site tower are also outlined below. Although mitigation measures proposed below would minimize the possibility of incidental take of tortoise associated with the proposed action, potential remains for the project to affect this federally listed species.

As a consequence, ESA Section 7 consultation is recommended in authorizing the project. BLM has completed a previous programmatic consultation for small actions which may have a potential for incidental take of tortoises. The resulting "*Biological Opinion for Small Projects in Desert*

Tortoise Habitat" (USFWS 1997) has been issued to BLM as a programmatic consultation which can be applied to satisfy ESA Section 7 consultation requirements on certain land use authorizations, potentially including this one.

The following best management practices and mitigation measures taken from the "*Biological Opinion for Small Projects in Desert Tortoise Habitat*" (USFWS 1997) have been included below as recommended mitigation to avoid incidental take of desert tortoises (USFWS 1997). These measures will also serve to protect other wildlife, including special status species.

1. A qualified biologist[1] (i.e., an individual with appropriate education, training and experience to conduct desert tortoise surveys, monitor project activities in tortoise habitat, and provide worker education programs) is recommended to:
    a. Provide an environmental awareness and tortoise education training program to all personnel who work onsite prior to initiation of field activities, including entry to the access route and whenever a new employee prepares to enter the access route or site once the project is underway (see details below).
    b. Accompany and monitor any heavy equipment that is employed to smooth or repair the existing road proposed for vehicle travel and equipment transport to the site. Any tortoises and/or earthen burrows detected along this access route shall be closely monitored and avoided during road smoothing operations, especially during the April through May and September through October seasons when tortoises are most active.
    c. Survey the proposed site immediately prior to any surface disturbance to ensure no tortoises or tortoise burrows are present.
    d. Maintain a record of all tortoises and/or tortoise burrows detected in proximity to the site and access road.
    e. Monitor the installation of temporary tortoise exclusion fencing (USFWS 2005) appropriate to the communications site, which shall be erected around the perimeter of the proposed surface disturbance area, equipment staging, and material storage areas. This fencing should be installed in a manner that avoids any detected desert tortoise burrows and allows for the installation of proposed facility chain-link fencing within the temporary fence perimeter. Upon the completion of all proposed construction and staging activity, this fencing shall be removed. Fencing will not be installed along access routes, which will be monitored as needed.
    f. The fence shall be constructed of hardware cloth with a 1/2-inch mesh size unless changed by the Desert Tortoise Management Oversight Group. It shall extend 18 inches above ground and 12 inches below ground. Where burial of the fence is not

[1] The term "qualified biologist" in these measures is defined as a trained wildlife biologist who is knowledgeable concerning desert tortoise biology, tortoise mitigation techniques, tortoise habitat requirements, identification of tortoise sign, and procedures for surveying for tortoises. Evidence of such knowledge may include one or more of the following: employment as a field biologist working on desert tortoise or successful completion of a contract dealing with desert tortoise fieldwork. Attendance at the training course sponsored by the Desert Tortoise Council would be a supporting qualification.

possible, the lower 12 inches shall be folded outward against the ground and fastened to the ground so as to prevent tortoise entry. The fence shall be supported sufficiently to maintain its integrity. Gate(s) shall be tortoise-proof. This gate shall remain closed except for the immediate passage of vehicles. The fence shall be checked at least monthly and maintained when necessary by ICT to ensure its integrity.

2. ICT shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance with the BLM. The FCR must be onsite during all project activities. The FCR shall have the authority to halt all project activities that are in violation of the stipulations. The FCR shall have a copy of all stipulations when work is being conducted on the site. The FCR may be a crew chief or field supervisor, a project manager, any other employee of ICT, or a project biologist.
3. ICT is responsible for ensuring that the education program to be presented by the qualified biologist is developed and presented prior to conducting activities. The employee education program must be received, reviewed, and approved by the BLM Resource Area Office at least 15 days prior to the presentation of the program. The program may consist of a class presented by a qualified biologist (BLM or contracted) in person or in a video. Wallet-sized cards or a one-page handout with important information for workers to carry are recommended. The program shall cover the following topics at a minimum:
    a. Distribution of the desert tortoise,
    b. General behavior and ecology of the tortoise,
    c. Sensitivity to human activities,
    d. Legal protection,
    e. Penalties for violations federal laws,
    f. Reporting requirements, and
    g. Project protective mitigation measures.
    h. Maximum speed limit of 15 mph for all vehicles on the access road and the responsibility of vehicle operators to avoid tortoises that may be encountered along this existing road and onsite.
    i. The need to look beneath all vehicles and equipment prior to moving them.
4. Only biologists authorized by the USFWS and the BLM shall handle desert tortoises. The BLM or ICT shall submit the name(s) of proposed authorized biologist(s) to the USFWS for review and approval at least 15 days prior to the onset of activities. No handling activities shall begin until an authorized biologist is approved. [2] Authorization for handling shall be granted under the auspices of the "*Biological Opinion for Small Projects in Desert Tortoise Habitat*" (USFWS 1997).

[2] An "authorized biologist" is defined as a wildlife biologist who has been authorized to handle desert tortoises under the auspices of a biological opinion. An authorized biologist is generally approved by the USFWS and the BLM.

a. Desert tortoises may be handled only by an authorized biologist and only when necessary. In handling desert tortoises, an authorized biologist shall follow the techniques form handling desert tortoises in "Guidelines for Handling Desert Tortoises during Construction Projects" (Desert Tortoise Council 1994 [revised 1999]).

b. The authorized biologist shall maintain a record of all desert tortoises handled. This information shall include for each tortoise:

   i. The locations (narrative and maps) and dates of observations;

   ii. General condition and health, including injuries and state of healing and whether animals voided their bladders;

   iii. Location moved from and location moved to;

   iv. Diagnostic markings (i.e., identification numbers or marked lateral scutes).

   v. A photograph of each handled desert tortoise as described in a previous measure.

c. No later than 90 days after completion of construction or termination of activities, the FCR and authorized biologist shall prepare a report for the BLM. The report shall document the compliance with, effectiveness, and practicality of the mitigation measures, the number of tortoises excavated from burrows, the number of tortoises moved from the site, the number of tortoises killed or injured, and the specific information for each tortoise as described previously. It will summarize all monitoring activity. The report may make recommendations for modifying the stipulations to enhance tortoise protection or to make it more workable in the future. The report shall provide an estimate of the actual acreage disturbed by various aspects of the operation. If any suitable tortoise habitat is impacted by project activities, standard BLM compensation requirements shall apply.

d. Upon locating a dead or injured tortoise, ICT and/or a project biologist is to notify the BLM Resource Area Office. The BLM must then notify the appropriate field office (Carlsbad or Ventura) of the USFWS by telephone within three days of the finding. Written notification must be made within five days of the finding, both to the appropriate USFWS field office and to the USFWS Division of Law Enforcement in Torrance.

   The information provided must include the date and time of the finding or incident (if known), location of the carcass or injured animal, a photograph, cause of death, if known, and other pertinent information.

   An injured animal shall be transported to a qualified veterinarian for treatment at the expense of ICT. If an injured animal recovers, the appropriate field office of USFWS should be contacted for final disposition of the animal.

   The BLM shall endeavor to place the remains of intact tortoise carcasses with educational or research institutions holding the appropriate state and federal permits. If such institutions are not available or the animal's remains are in poor condition, the information noted above shall be obtained and the carcass left in place. If left in place and sufficient pieces are available, the BLM (or its agent) shall attempt to mark the

carcass to ensure that it is not reported again. Arrangements for disposition to a museum shall be made prior to removal of the carcass from the field.

e. Workers shall inspect for tortoises under a vehicle prior to moving it. If a tortoise is present, the worker shall carefully move the vehicle only when necessary and when the tortoise would not be injured by moving the vehicle or shall wait for the tortoise to move out from under the vehicle.

f. All trash and food items shall be promptly contained within closed, raven and predator proof containers. These shall be regularly removed from the project site to reduce the attractiveness of the area to ravens and other tortoise predators.

In addition to the measures recommended above, any common raven nest constructed on the proposed communication site tower or associated facility shall be reported to the BLM and removed by ICT in the inactive nesting season when the nest is unoccupied by birds.

5. The area of disturbance shall be confined to the smallest practical area, considering topography, placement of facilities, location of burrows, public health and safety, and other limiting factors.
6. Work area boundaries shall be delineated with flagging or other marking to minimize surface disturbance associated with vehicle straying. Special habitat features, such as burrows, identified by the qualified biologist shall be avoided to the extent possible.
7. To the extent possible, previously disturbed areas within the project site shall be utilized for the stockpiling of excavated materials, storage of equipment, location of office trailers, and parking of vehicles. The qualified biologist, in consultation with ICT, shall ensure compliance with this measure.

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6.0 CONCLUSION

The proposed Ash Hill Communication site access route and an adjacent buffer (the BSA) were surveyed for desert tortoise and general biological resources in 2010 and 2017. Plant communities, wildlife habitats, and animal species observed in the BSA were recorded and characterized.

Sign of the desert tortoise, including recent sign, was seen on and near the access route (see Appendix D). Three special status bird species were also observed in the course of this biological survey effort. Lands to be directly disturbed by project work on the communications site and access road bed were judged to be unsuitable habitat for desert tortoise and other special status resources due to previous surface disturbance. However, the BSA outside of the direct project footprint provides habitat for a variety of plants and wildlife, including the desert tortoise and other special-status species. Because of this, there is a possibility that desert tortoises and other special status wildlife may enter the project and access route footprints.

Mitigation measures have been recommended to ensure that adverse effects are avoided and/or minimized during the course of the surface-disturbing activity associated with the project.

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APPENDIX A
SITE PHOTOS

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Photo 1. Conditions at the communications facility site.

Photo 2. Typical wash conditions along the east-west gas pipeline road/NS0003.

Photo 3. Typical upland conditions along the east-west gas pipeline road/NS0003.

Photo 4. Typical upland conditions along the north-south trending road/NS0017 north of the railroad and wash 3b.

Photo 5. Looking southwest at impassable, severely eroded access route dropping into Drainage 3b north of the railroad.

Photo 6. Looking south at the access road/NS0017 within Drainage 3b which continues in the wash under the railroad bridge in the distance. This is the point where the access route would exit the drainage heading north if the road was passable.

Photo 7. Desert tortoise burrow with fresh tracks.

Photo 8. Desert tortoise burrow with tortoise scats. Also see desert tortoise carcass photo on the cover of this report.

APPENDIX B
PLANT SPECIES DETECTED ONSITE

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Species List: Vascular Plants

This list reports only plants observed onsite by this study. Other species may have been overlooked or undetectable due to their growing season.

*†= special-status species, ** = non-native species, sp. = identified only to genus, spp. = two or more species, cf. = compares favorably with], var. = variety, ssp. = subspecies

CONIFERAE	**CONE BEARING PLANTS**
GNETAE	**JOINT FIRS**
Ephedraceae	**Ephedra Family**
Ephedra californica	desert tea
ANGIOSPERMAE	**FLOWERING PLANTS**
DICOTYLEDONEAE	**DICOTYLEDONOUS PLANTS**
Amaranthaceae	**Amaranth Family**
Tidestromia lanuginosa	Woolly tidestromia
Apocynaceae	**Dogbane Family**
Asclepias subulata	rush milkweed
Funastrum hirtellum	trailing townula
Asteraceae	**Sunflower Family**
Ambrosia dumosa	white bur-sage
Ambrosia salsola	cheesebush
Bebbia juncea var. *aspera*	sweetbush
cf. *Chaenactis fremontii*	Fremont pincushion
Encelia farinosa	brittlebush
Encelia cf. *frutescens*	rayless encelia
Geraea canescens	desert-sunflower
Malacothrix glabrata	desert dandelion
Stephanomeria exigua	small wirelettuce
Boraginaceae	**Borage Family**
Cryptantha ≥3 spp.	forget me not
Phacelia sp.	phacelia
Tiquilia plicata	fan-leaved tiquilia
Brassicaceae	**Mustard Family**
*Brassica tournefortii**	Asian mustard
Cactaceae	**Cactus Family**
Cylindropuntia echinocarpa	golden cholla
Cylindropuntia ramosissima	pencil cactus
Echinocactus polycephalus var. *polycephalus*	cottontop cactus
Opuntia basilaris	beavertail
Chenopodiaceae	**Goosefoot Family**
Atriplex canescens	four-wing saltbush
Atriplex hymenelytra	desert-holly
Convolvulaceae	**Morning Glory Family**
Cuscuta sp.	dodder

Cucurbitaceae	**Gourd Family**
Cucurbita palmata	coyote melon
Euphorbiaceae	**Spurge Family**
Euphorbia polycarpa	smallseed sandmat
Fabaceae	**Legume Family**
Dalea mollis	hairy prairie clover
Psorothamnus spinosus	smoke tree
Senegalia greggii	catclaw
Senna armata	spiny senna
Krameriaceae	**Rhatany Family**
Krameria bicolor	white rhatany
Krameria erecta	little-leaved rhatany
Lamiaceae	**Mint Family**
Salvia columbariae	chia
Loasaceae	**Loasa Family**
Mentzelia albicaulis	whitestem blazingstar
Petalonyx thurberi	Thurber's sandpaper plant
Onagraceae	**Evening Primrose Family**
Camissonia sp.	evening primrose sp.
Oenothera sp.	evening primrose sp.
Plantaginaceae	**Plantain Family**
Plantago ovata	desert plantain
Polemoniaceae	**Phlox Family**
Eriastrum sp.	woollystar sp.
Gilia sp.	gilia sp.
Langloisia cf. *setosissima*	bristly langlosia
Loeseliastrum sp.	calico sp.
Polygonaceae	**Buckwheat Family**
Chorizanthe rigida	spiny herb
Eriogonum deflexum	flat-top buckwheat
Eriogonum inflatum	desert trumpet
Eriogonum ≥2 additional spp.	annual buckwheat sp.
Solanaceae	**Nightshade Family**
Physalis crassifolia	thick-leaved ground cherry
Zygophyllaceae	**Caltrop Family**
Larrea tridentata	creosote bush
MONOCOTYLEDONEAE	**MONOCOTYLEDONOUS PLANTS**
Poaceae	**Grass Family**
Dasyochloa pulchellum	fluffgrass
Schismus sp.*	Mediterranean grass

APPENDIX C
VERTEBRATE ANIMAL SPECIES DETECTED ONSITE

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Species List: Vertebrate Animals

This list reports only vertebrate animals or their sign observed by this study. Other species may have been overlooked or undetectable due to the season, their activity patterns, or weather conditions.

†= special-status species*, ** = non-native species, sp. = identified only to genus, spp. = two or more species, cf = compares favorably with

CLASS REPTILIA	**REPTILES**
Testudinae	**Tortoise Family**
Gopherus agassizii †	Mohave desert tortoise (burrows, sign)
Teiidae	**Whiptail and Relatives Family**
Aspidoscelis tigris	tiger whiptail
Iguanidae	**Iguana Family**
Sauromalus ater	common chuckwalla
Phrynosomatidae	**Spiny Lizard Family**
Uta stansburiana	common side-blotched lizard
Callisaurus draconoides	zebra-tailed lizard
Colubridae	**Harmless Egg-Laying Snake Family**
Coluber flagellum	coachwhip
CLASS AVES	**BIRDS**
Falconidae	**Caracaras and Falcons Family**
Falco mexicanus †	prairie falcon
Laniidae	**Shrike Family**
Lanius ludovicianus †	loggerhead shrike
Corvidae	**Jay, Magpie & Crow Family**
Corvus corax	common raven
Alaudidae	**Lark Family**
Eremophila alpestris	horned lark
Remizidae	**Penduline Tits and Verdins Family**
Auriparus flaviceps	verdin (nest)
Troglodytidae	**Wren Family**
Salpinctes obsoletus	rock wren
Polioptilidae	**Gnatcatchers and Gnatwrens Family**
Polioptila melanura †	black-tailed gnatcatcher
Emberizidae	**Sparrow Family**
Artemisiospiza belli	Bell's sparrow
Icteridae	**True Finch Family**
Euphagus cyanocephalus	Brewer's blackbird
Parulidae	**Wood-Warblers**
Setophaga coronata	yellow-rumped warbler

CLASS MAMMALIA	**MAMMALS**
Canidae	**Fox, Wolf & Coyote Family**
Canis latrans	coyote (scat)
Vulpes macrotis	kit fox (scat, burrows)
Cricetidae	**New World Rat & Mouse Family**
Neotoma sp.	woodrat (middens)
Heteromyidae	**Pocket Mice and Kangaroo Rats**
Dipodomys sp.	kangaroo rat (sign of this & other rodents)
Leporidae	**Rabbit & Hare Family**
Lepus californicus	black-tailed jackrabbit
Sciuridae	**Squirrel Family**
Ammospermophilus leucurus	white-tailed antelope squirrel

APPENDIX D
DESERT TORTOISE TRANSECTS AND RESULTS

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Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:esri imagery

Legend

- Road
- 5m
- 15m
- 25m

0 150
Feet
1 in = 150 ft

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amec foster wheeler

Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX
D-01

amec foster wheeler

Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX

D-02

amec foster wheeler

Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX

D-03

amec foster wheeler

Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX

D-04

Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:esri imagery

Legend

- Road
- 5m
- 15m
- 25m

0 150
Feet
1 in = 150 ft

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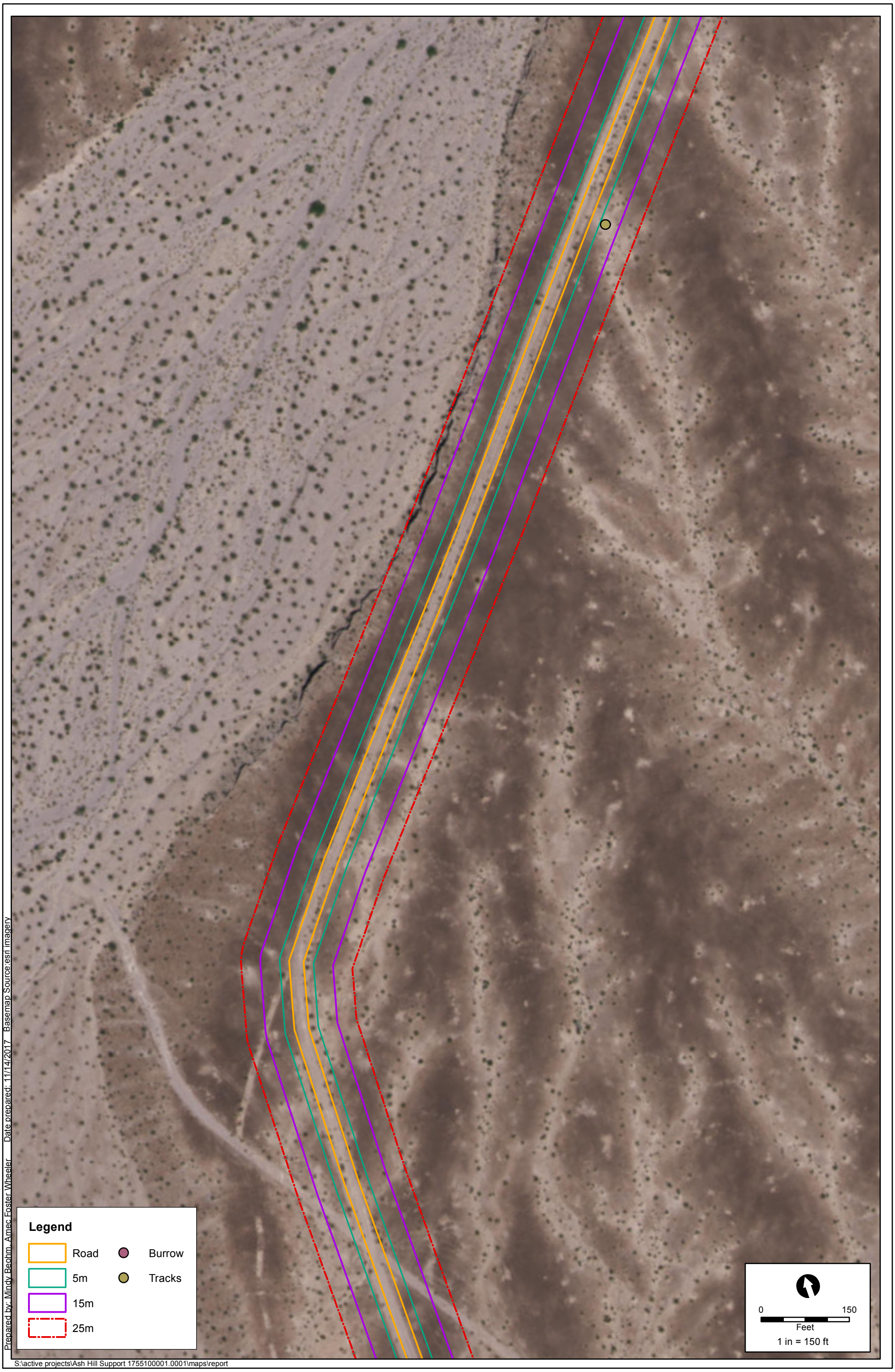
amec foster wheeler

Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX
D-05



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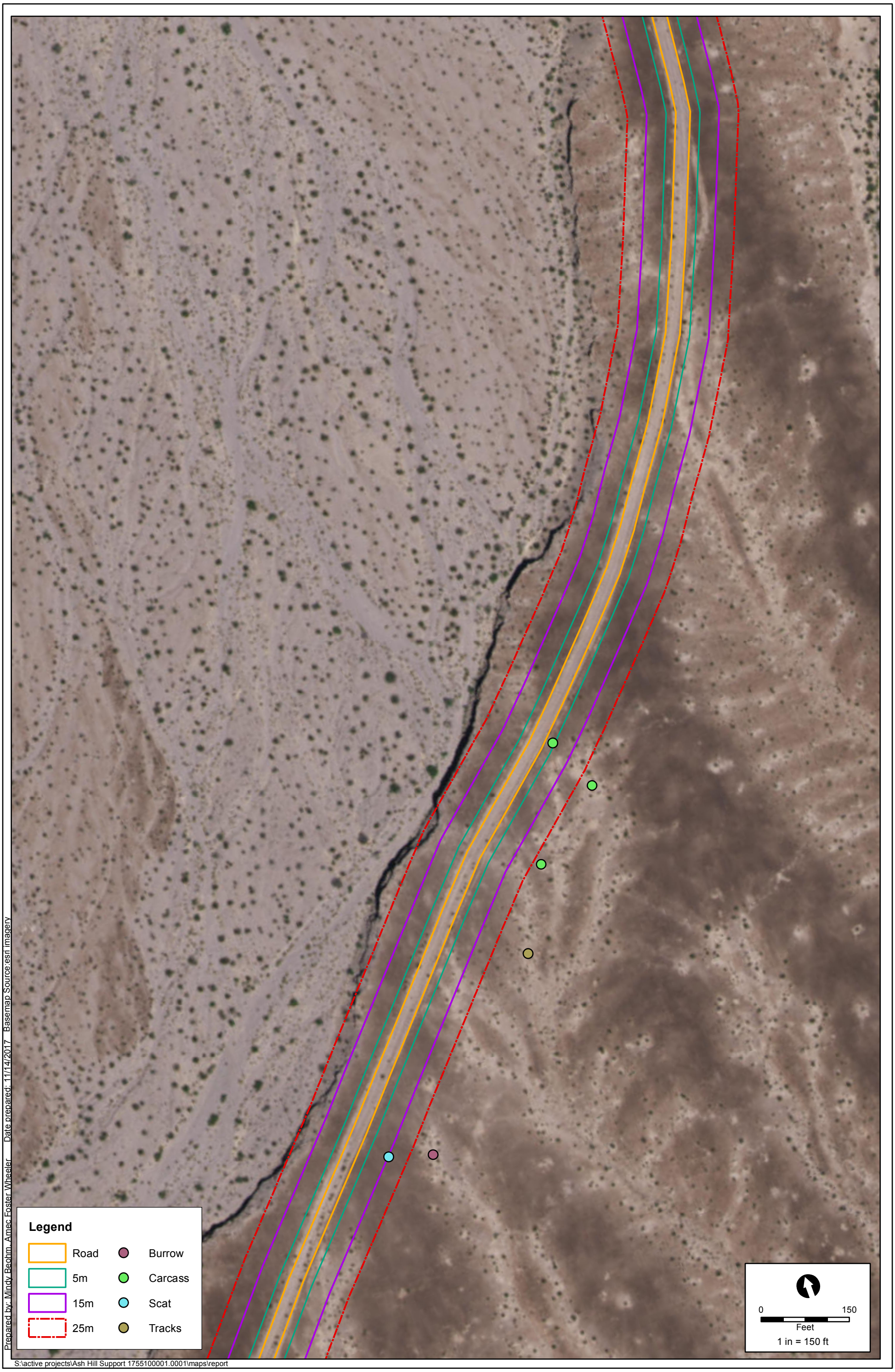
Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX

D-06



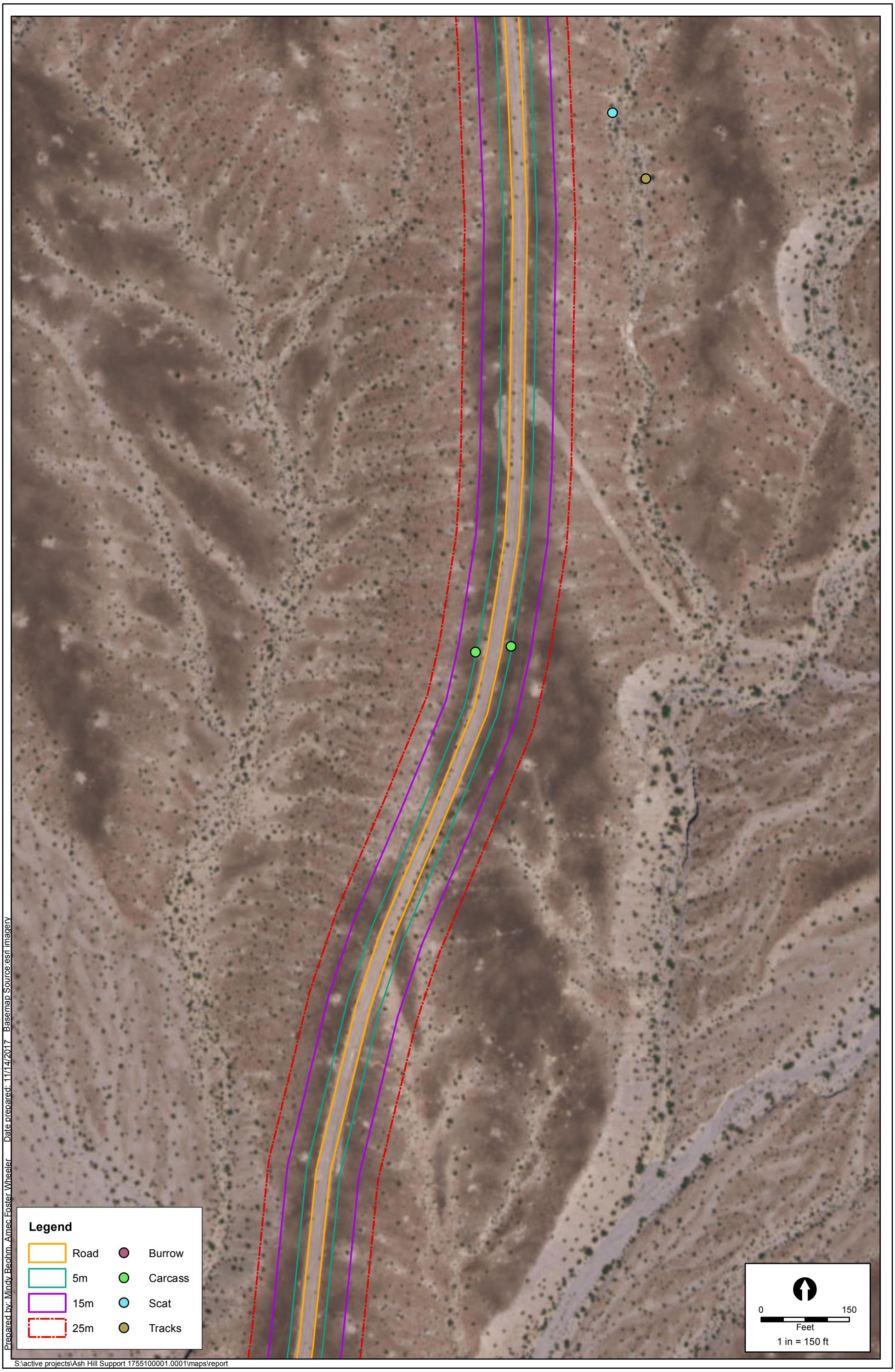
amec foster wheeler

Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX

D-07



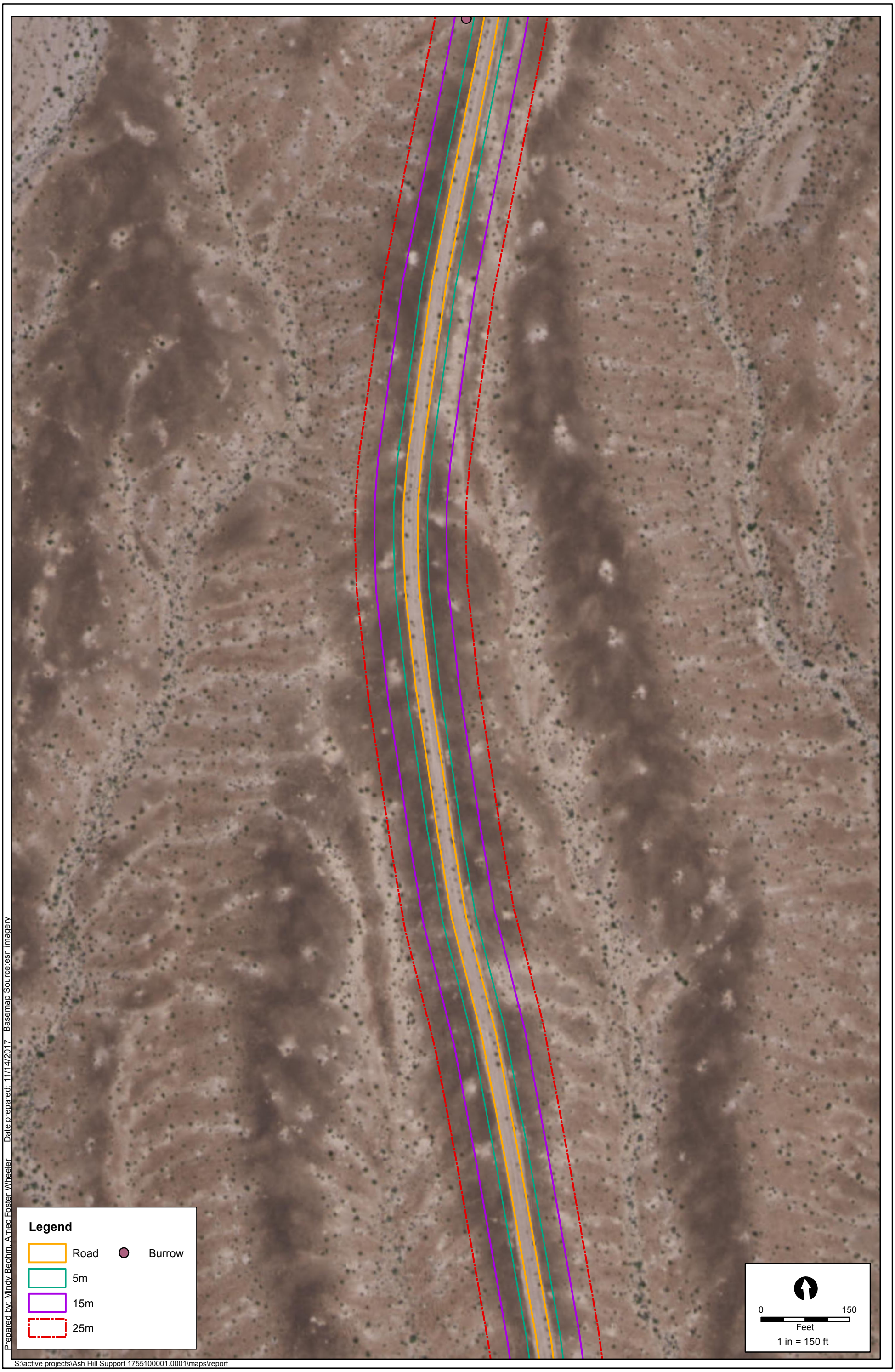
amec foster wheeler

Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX

D-08



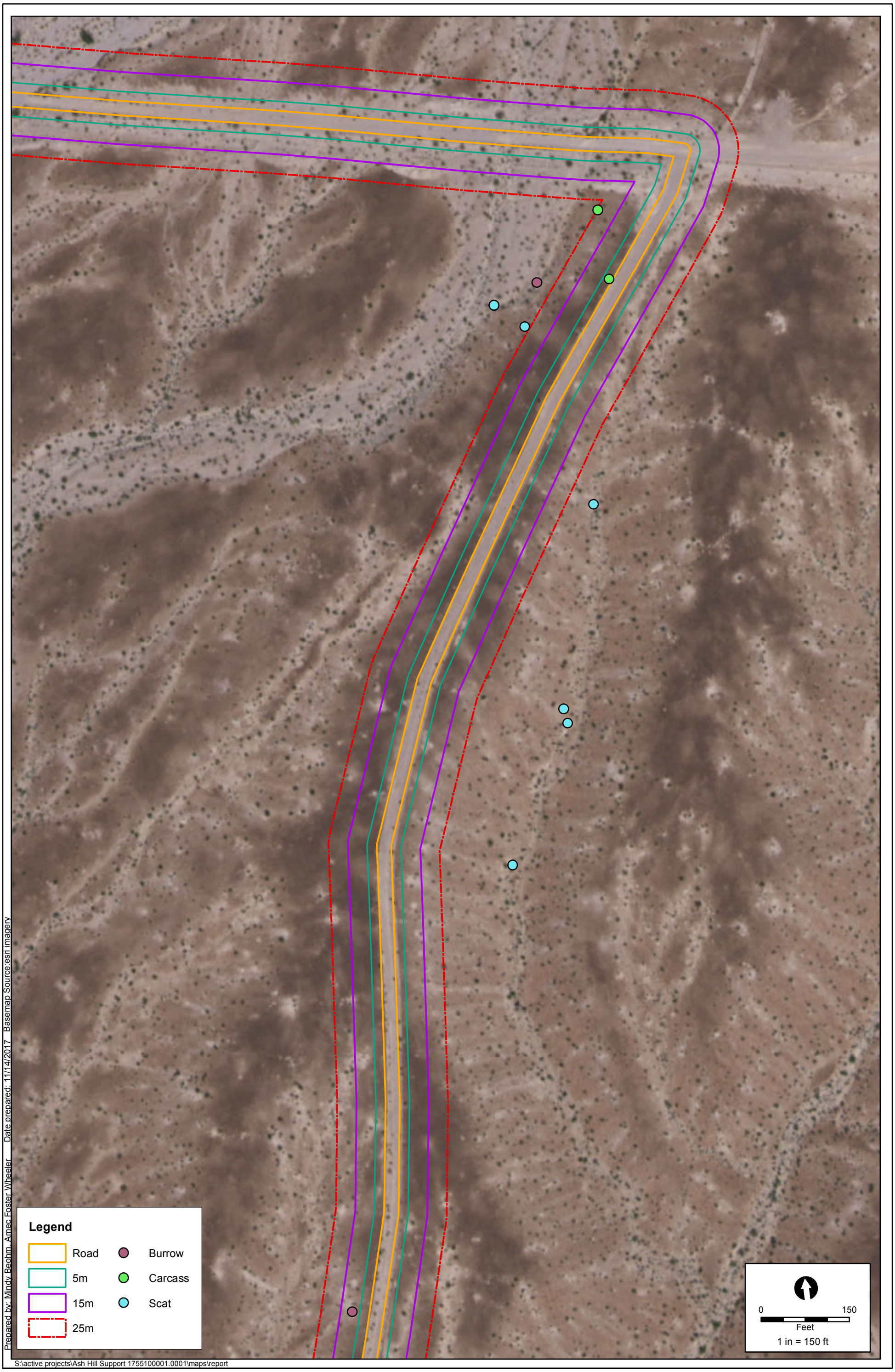
amec foster wheeler

Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX

D-09



amec foster wheeler

Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX

D-10

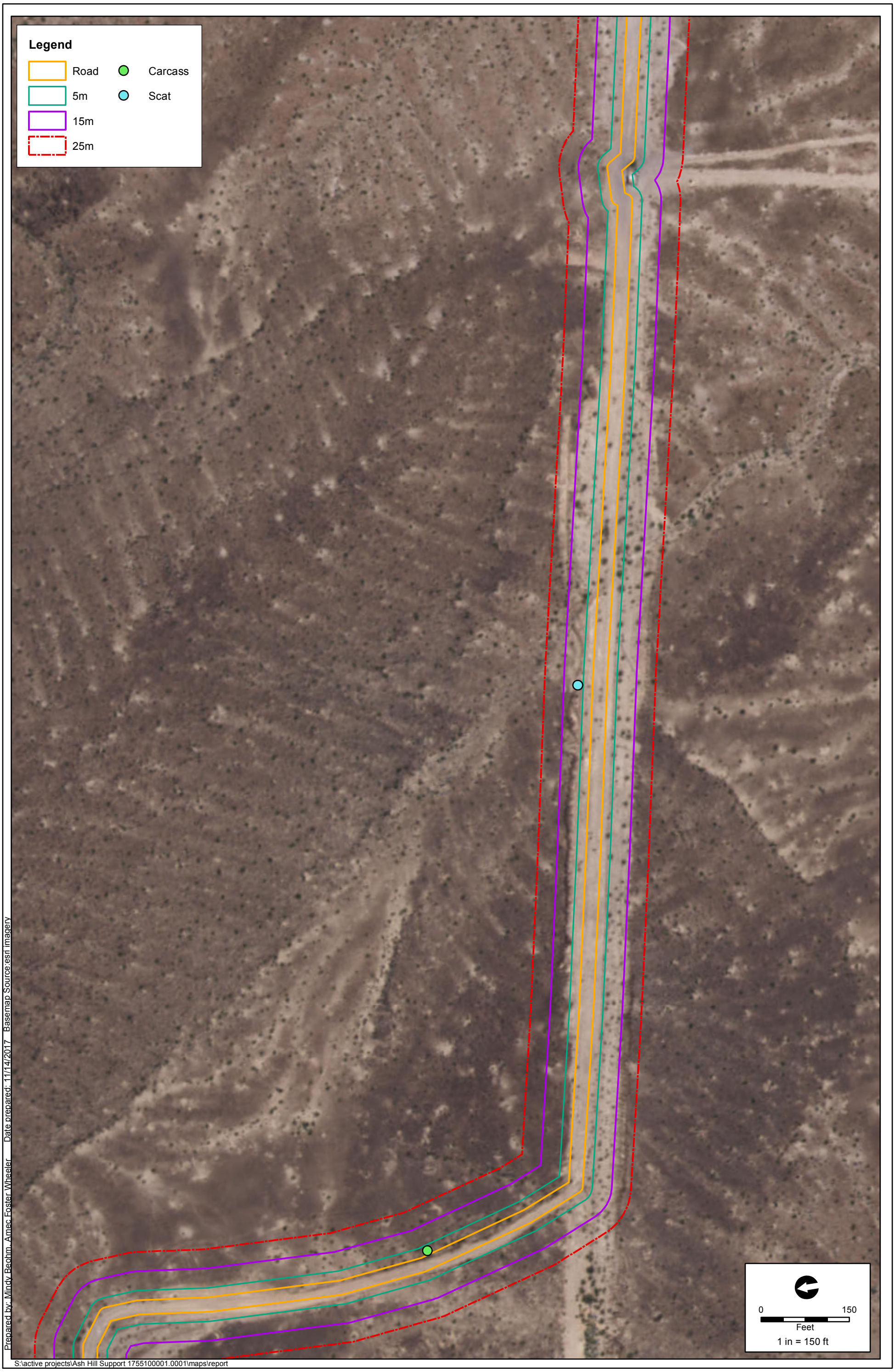
amec foster wheeler

Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX

D-11



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Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX

D-12

amec foster wheeler

Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX

D-13

amec foster wheeler

Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX

D-14

amec foster wheeler

Desert Tortoise Transects and Results Map

Proposed Ash Hill Communications Site

APPENDIX

D-15

APPENDIX E
DRAINAGE MAP

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Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:esri imagery

Legend

- Survey Area
- Road

0 150
Feet
1 in = 150 ft

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amec foster wheeler

Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-01

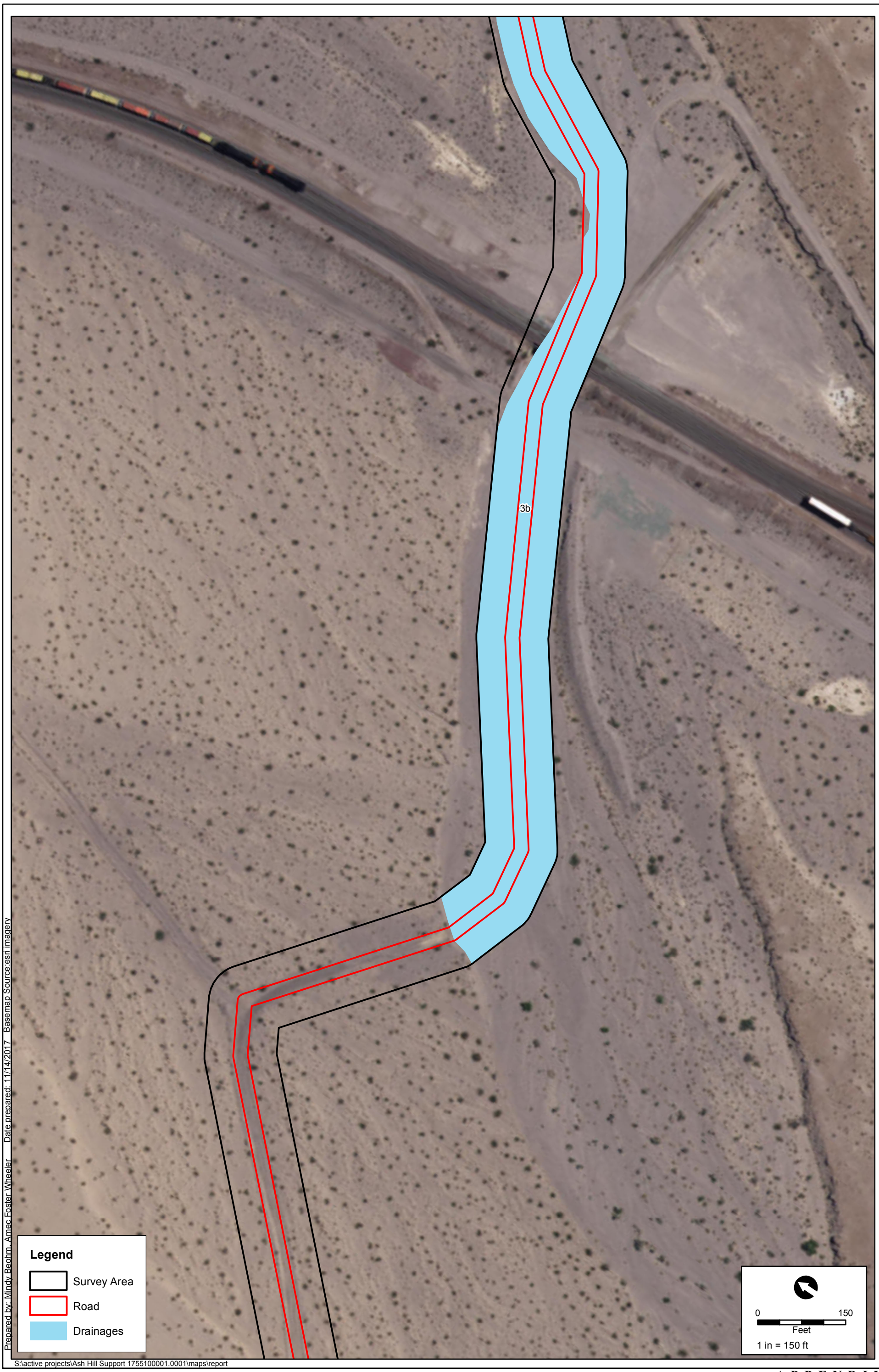
amec foster wheeler

Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-02



amec foster wheeler

Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-03

amec foster wheeler

Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-04

amec foster wheeler

Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-05

Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source: esri imagery

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Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-06

Legend

Survey Area

Road

0 150

Feet

1 in = 150 ft

Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:esri imagery

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Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-07

Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:esri imagery

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Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-08

Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:esri imagery

Legend

- Survey Area
- Road

0 150
Feet
1 in = 150 ft

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amec foster wheeler

Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-09

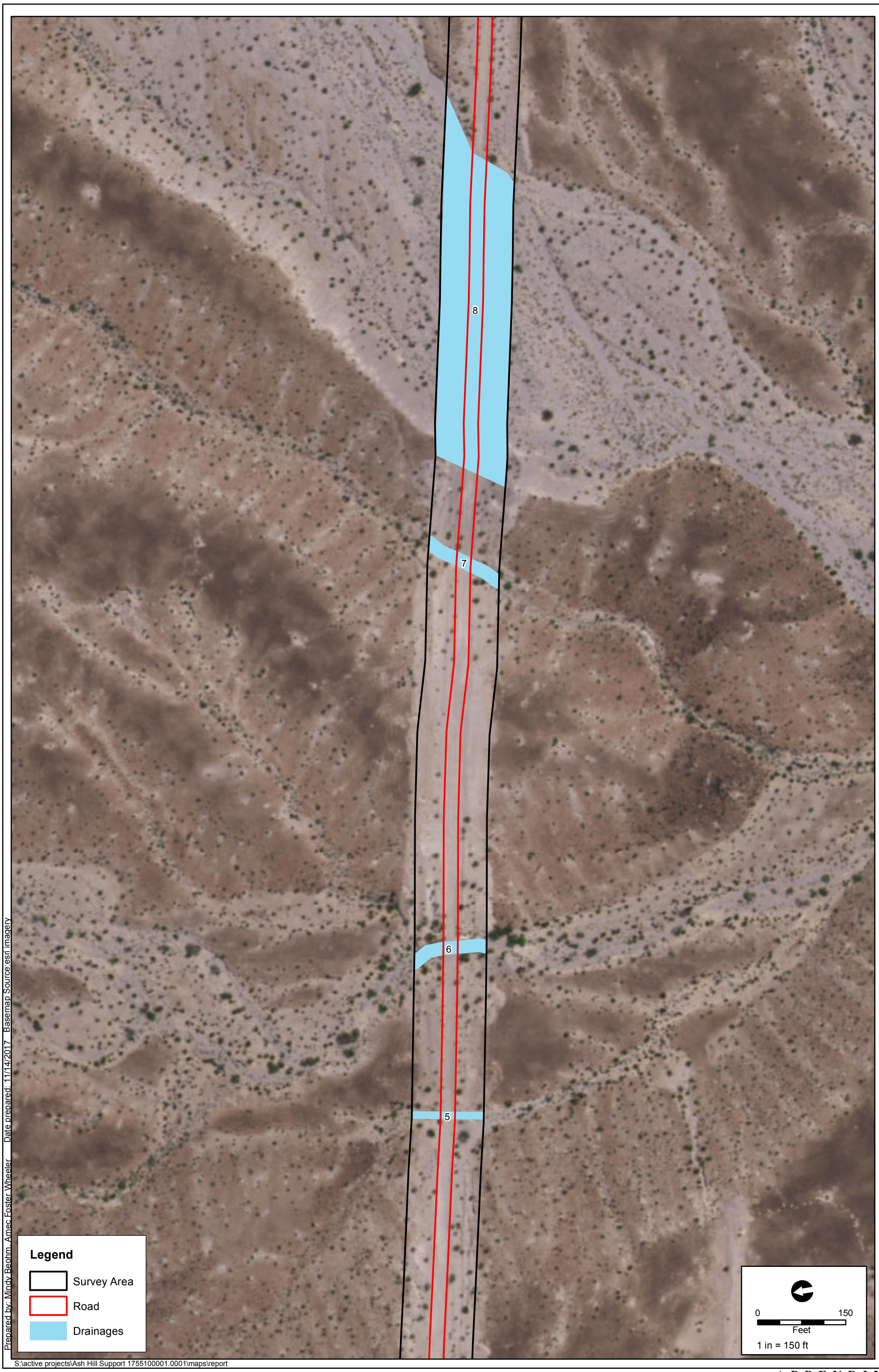
amec foster wheeler

Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-10



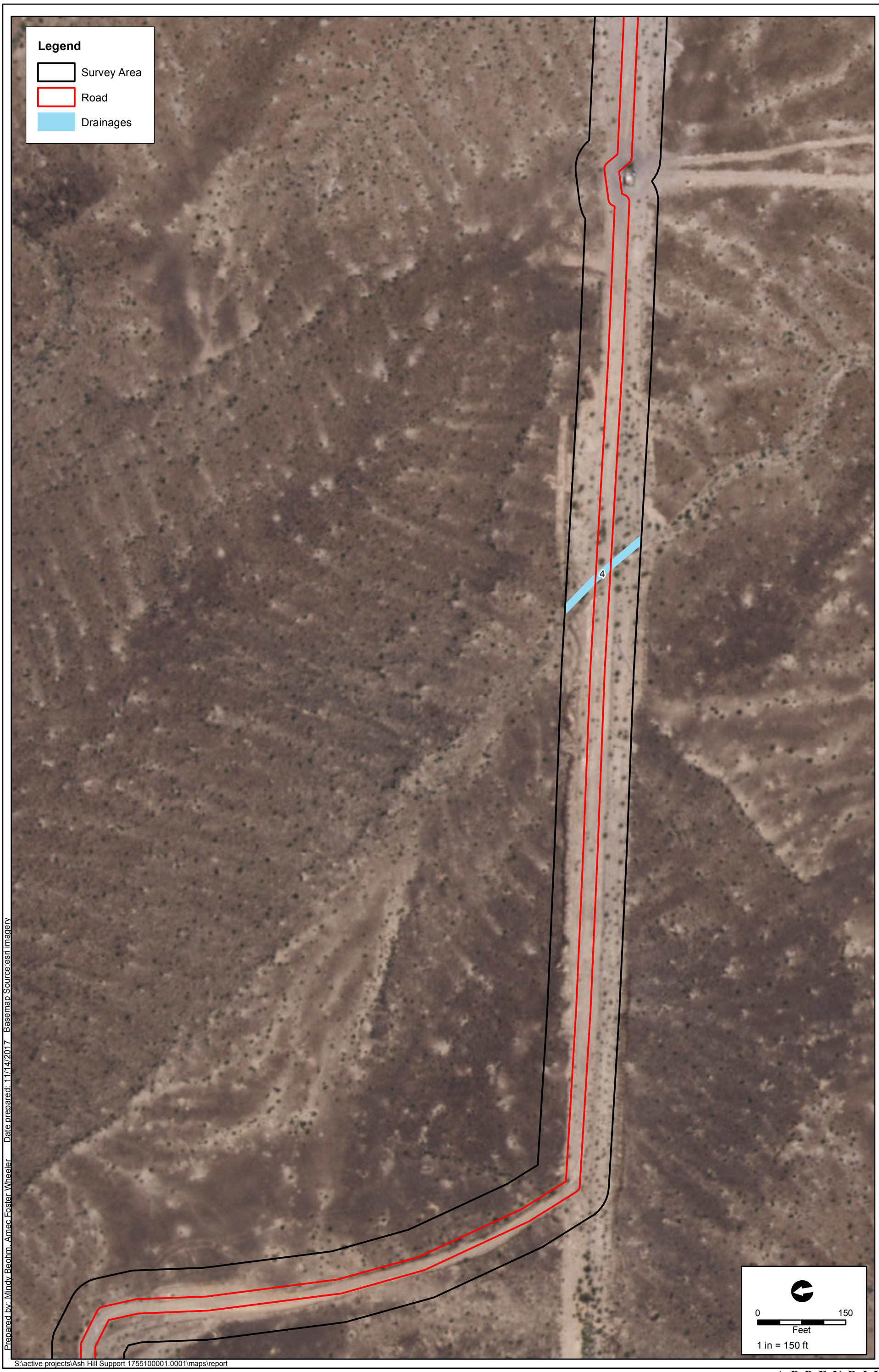
amec foster wheeler

Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-11



Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:esri imagery

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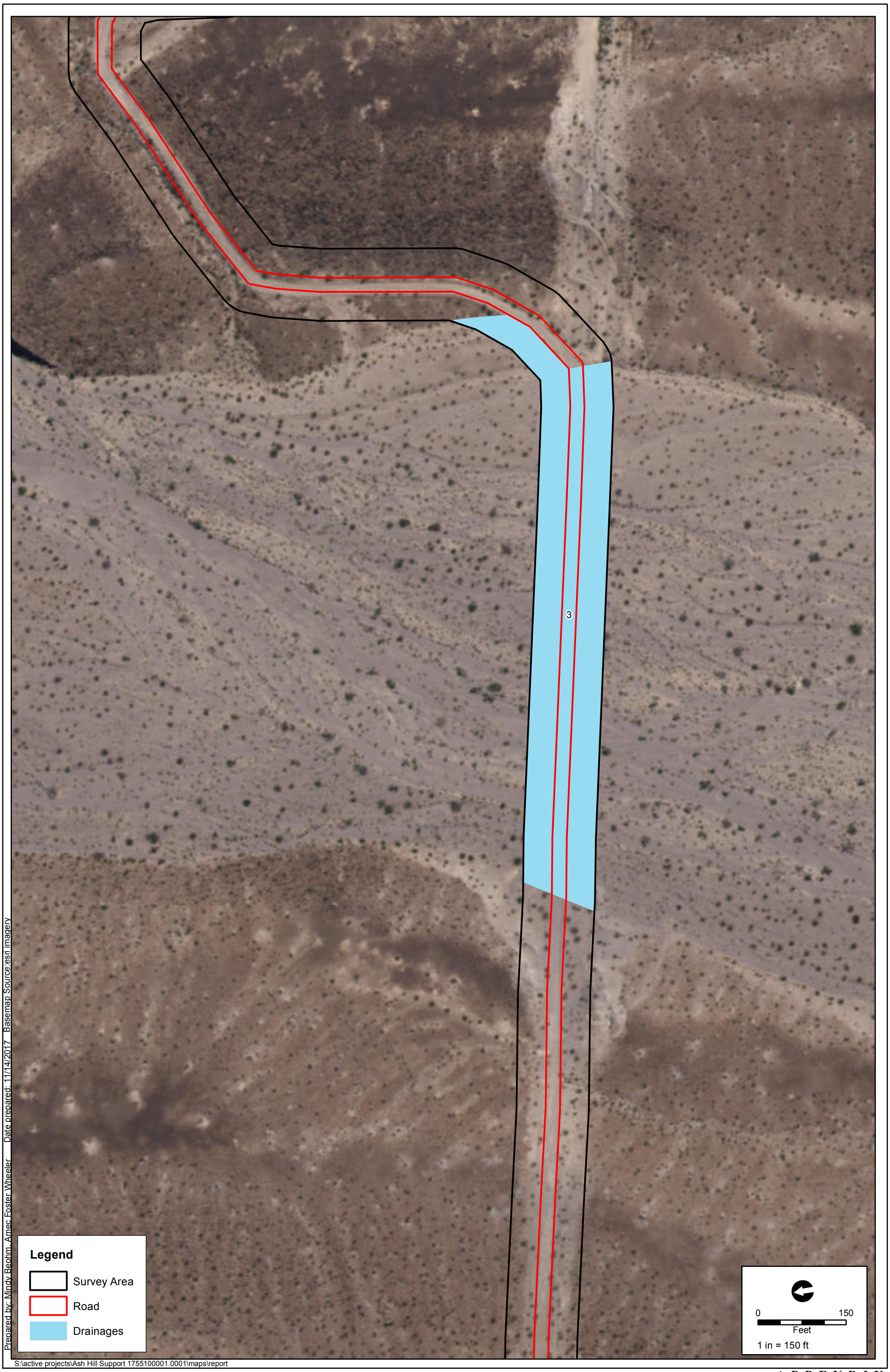
amec foster wheeler

Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-12



Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:esri imagery

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Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-13

amec foster wheeler

Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-14

amec foster wheeler

Drainage Map

Proposed Ash Hill Communications Site

APPENDIX

E-15

APPENDIX F
VEGETATION MAP

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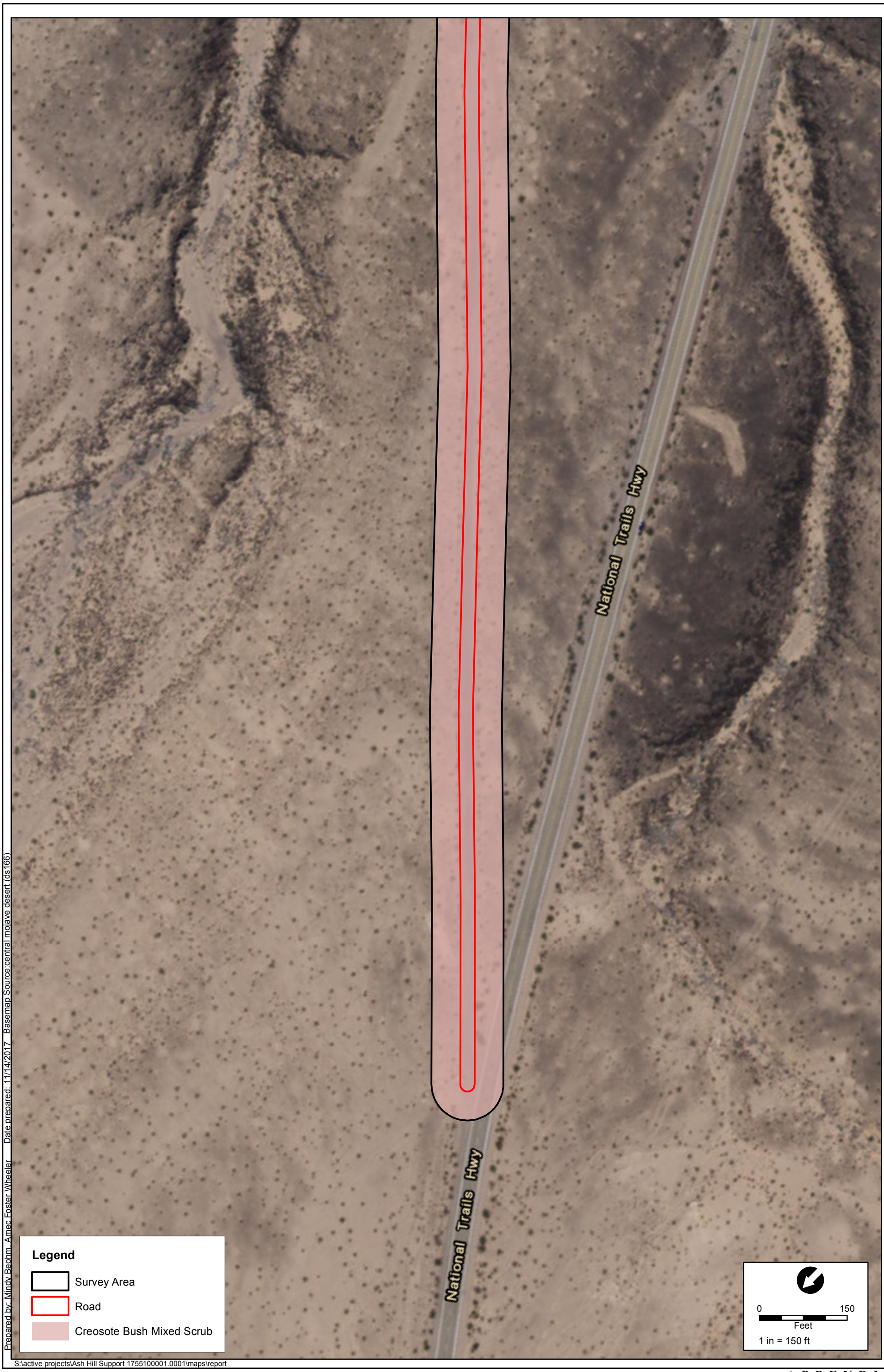

Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:central mojave desert (ds166)

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amec foster wheeler

Vegetation Map

Ash Hill Communications Site Access Route

APPENDIX

F-01

Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:central mojave desert (ds166)

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APPENDIX

amec foster wheeler

Vegetation Map

Ash Hill Communications Site Access Route

F-02

Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:central mojave desert (ds166)

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amec foster wheeler

Vegetation Map

Ash Hill Communications Site Access Route

APPENDIX

F-03

Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:central mojave desert (ds166)

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APPENDIX

amec foster wheeler

Vegetation Map

Ash Hill Communications Site Access Route

F-04

Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:central mojave desert (ds166)

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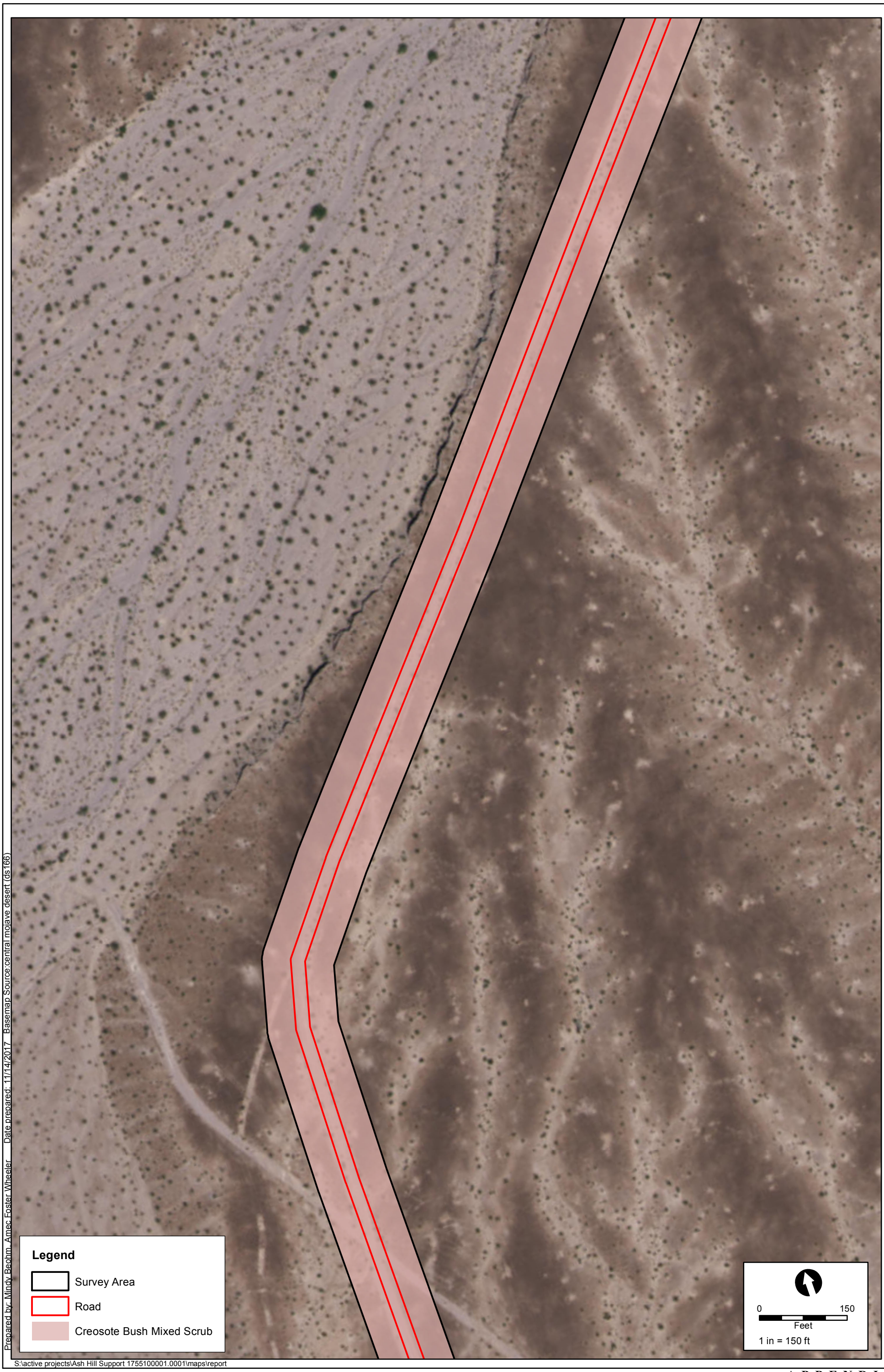
Vegetation Map

Ash Hill Communications Site Access Route

APPENDIX

F-05



Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:central mojave desert (ds166)

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amec foster wheeler

Vegetation Map

Ash Hill Communications Site Access Route

APPENDIX

F-06

Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:central mojave desert (ds166)

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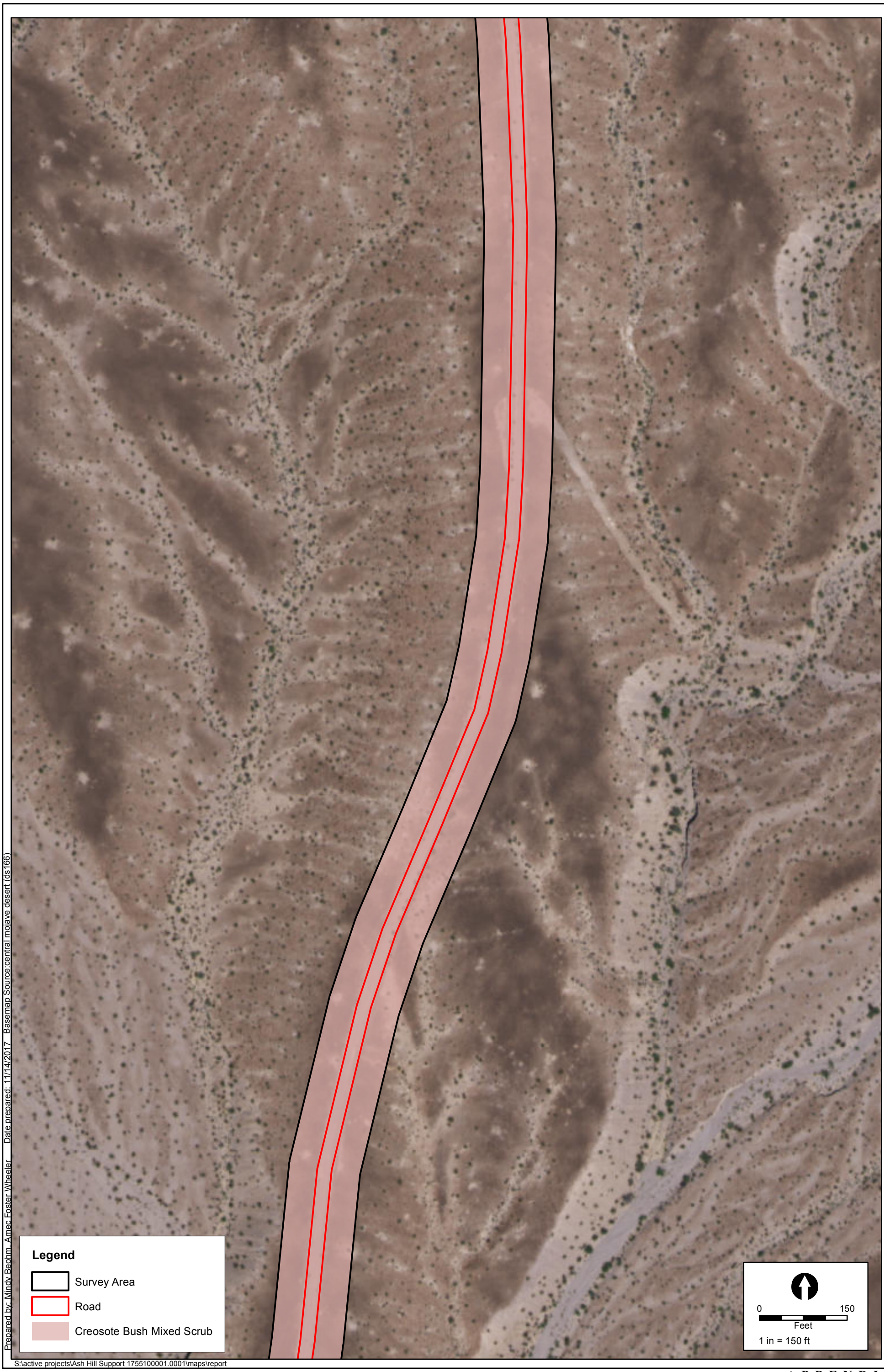
APPENDIX

amec foster wheeler

Vegetation Map

Ash Hill Communications Site Access Route

F-07



Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:central mojave desert (ds166)

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APPENDIX

Vegetation Map

Ash Hill Communications Site Access Route

F-08

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Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:central mojave desert (ds166)

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amec foster wheeler

Vegetation Map

Ash Hill Communications Site Access Route

APPENDIX

F-09

Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:central mojave desert (ds166)

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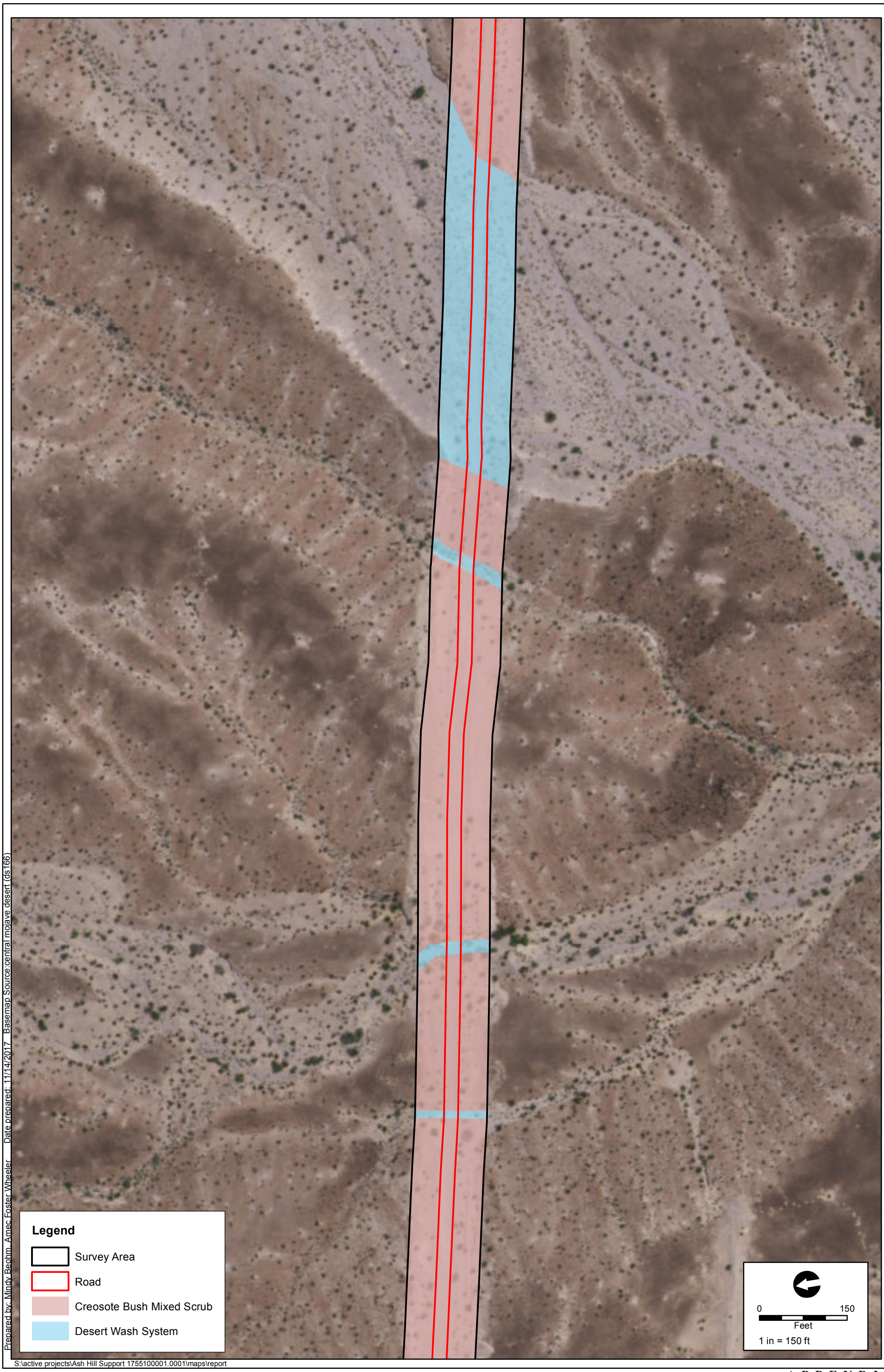
amec foster wheeler

Vegetation Map

Ash Hill Communications Site Access Route

APPENDIX

F-10



Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:central mojave desert (ds166)

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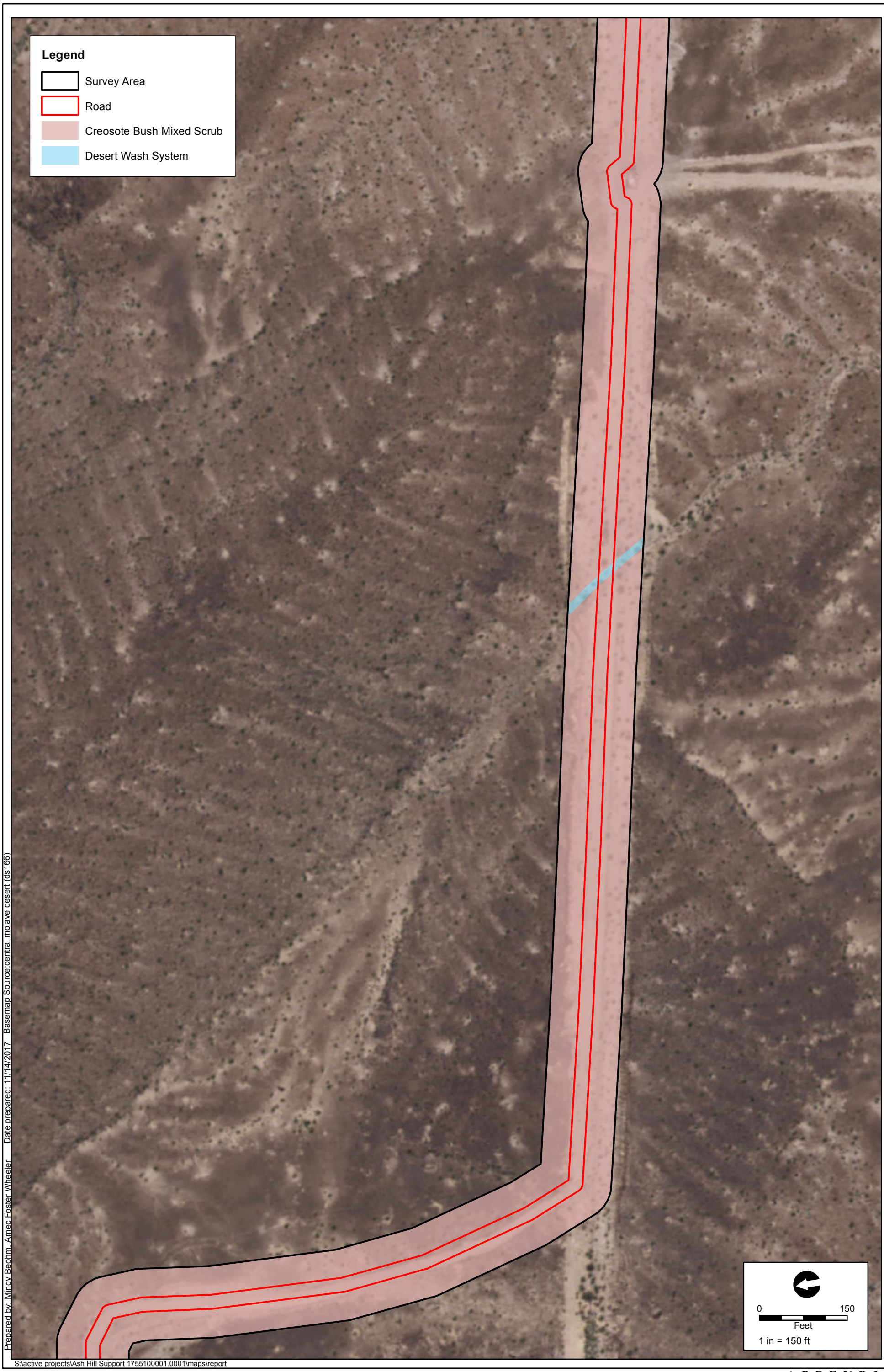
amec foster wheeler

Vegetation Map

Ash Hill Communications Site Access Route

APPENDIX

F-11



Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:central mojave desert (ds166)

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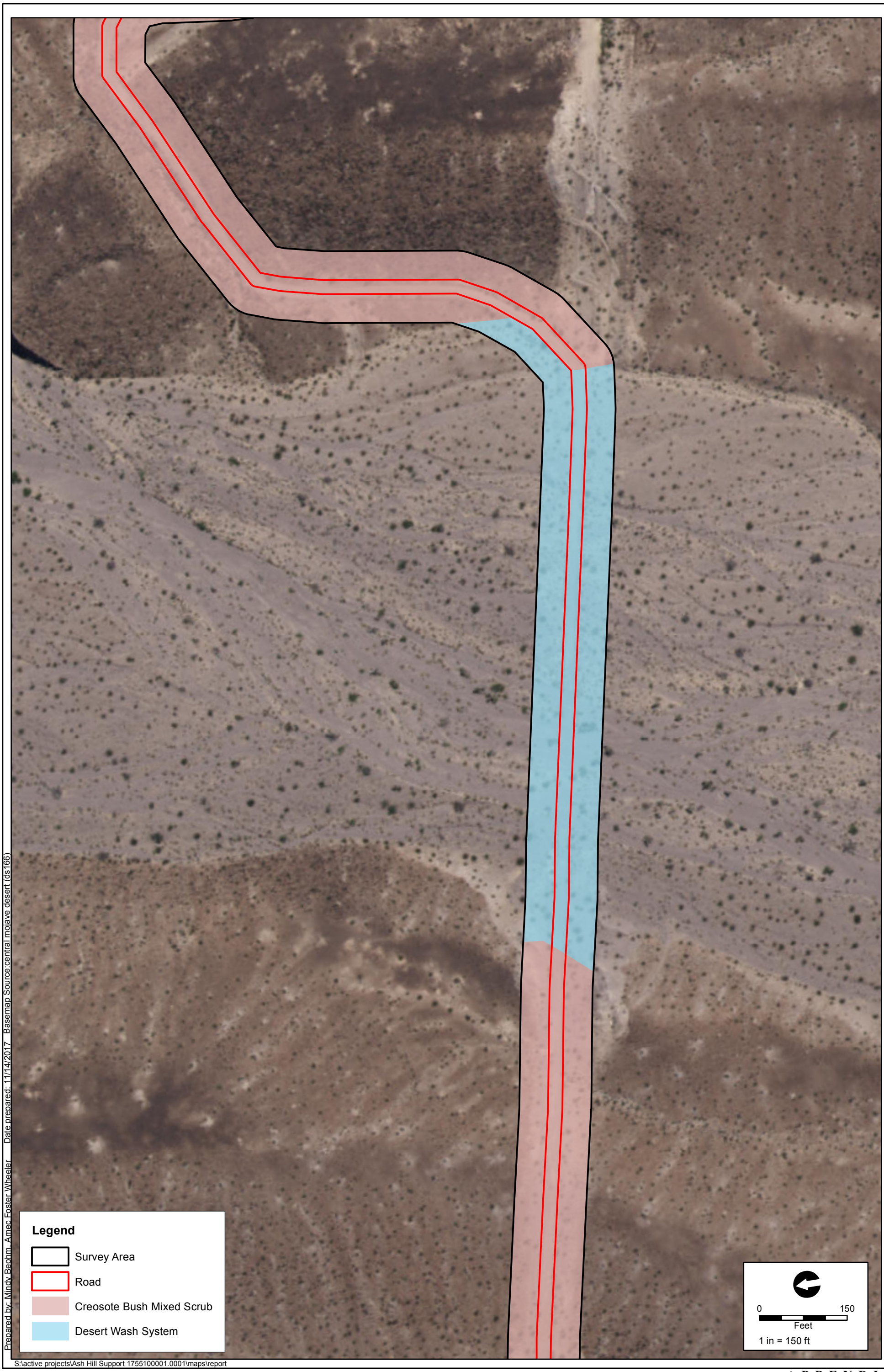
APPENDIX

amec foster wheeler

Vegetation Map

Ash Hill Communications Site Access Route

F-12



Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:central mojave desert (ds166)

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Prepared by: Mindy Beohm, Amec Foster Wheeler Date prepared: 11/14/2017 Basemap Source:central mojave desert (ds166)

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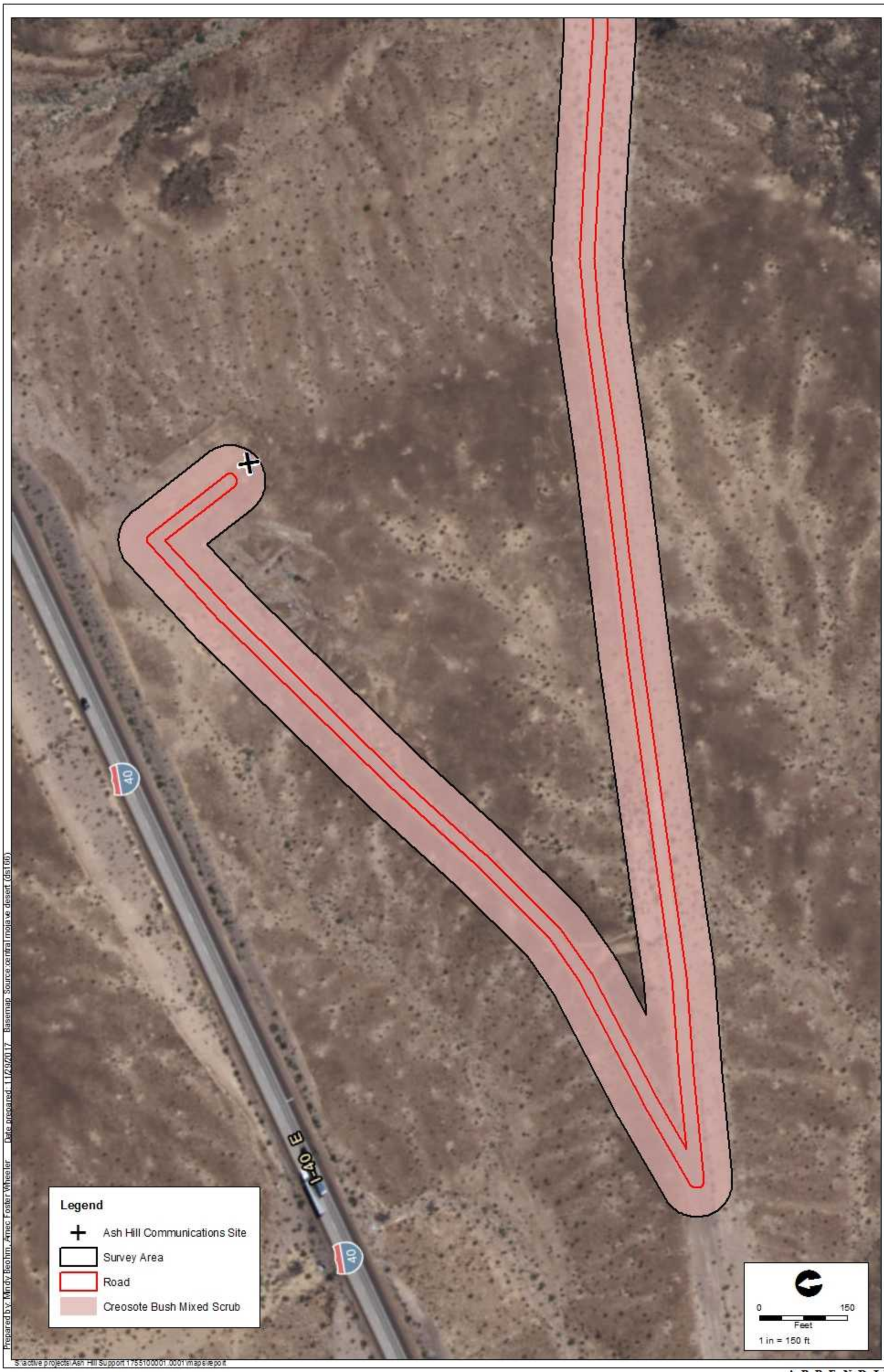
amec foster wheeler

Vegetation Map

Ash Hill Communications Site Access Route

APPENDIX

F-14



APPENDIX

Vegetation Map

Ash Hill Communications Site Access Route

F-15

APPENDIX G
SURVEY DATA SHEETS

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USFWS 2010 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Please submit a completed copy to the action agency and local USFWS office within 30-days of survey completion

Date of survey: 18 Oct 17 (day, month, year) Survey biologist(s): J Green (name, email, and phone number)

Site description: Ash Hill (project name and size, general location)

County: San Bern Quad: Ash Hill, Location: ICT (UTM coordinates, lat-long, and/or TRS, map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: _____ Transect #: 1 Transect length: 5.2 mi

GPS Start-point: 589480 3841953 605m (easting, northing, elevation in meters) Start time: 0800 am/pm

GPS End-point: 589304 3837954 502m (easting, northing, elevation in meters) End time: 1525 am/pm

Start Temp: 74 °F End Temp: 93 °F

Live Tortoises

Detection number	GPS location Easting	GPS location Northing	Time	Tortoise location (*in burrow*: all of tortoise beneath plane of burrow opening, or *not in burrow*)	Approx MCL >180-mm? (Yes, No, or Unknown)	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting	GPS location Northing	Type of sign (*burrows, scats, carcass, etc*)	Description and comments
1	589605	3841771	Type 5 pallet	
2	592039	3841249	Carcass	Class 5, ~3' W. of road
3	591991	3841243	burrow, 8 scats	Class 2, other burrows & pallets nearby
4				
5				
6				
7				
8				

Char. rigida ✓ Dodder ✓
Cheesebush ✓
Ephedra trifurca ✓
Eriogonum spp 1, 2 ✓

✓ small mammal ✓ Kit Fox ✓
BRBL burrows/ Krat Chuckwalla ✓
Red Racer ✓ Vertebrate nest ✓
HOLA ✓ PRFA ✓ Coyote scat ✓
CORA ✓

Page: ____ of ____
Transect number: ____

USFWS 2010 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Please submit a completed copy to the action agency and local USFWS office within 30-days of survey completion

Date of survey: 10/10/17 (day, month, year) Survey biologist(s): Michelle Tobin (name, email, and phone number)

Site description: Ash Hill Access Route Survey (project name and size; general location)

County: San Budo Quad: Ash Hill/Sibenia Location: Ash Hill location (UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: _____ Transect #: 2 Transect length: 5.2mi

GPS Start-point: 589483, 3841947 606m (easting, northing, elevation in meters) Start time: 0800 (am/pm)

GPS End-point: 589305, 3837961 502m (easting, northing, elevation in meters) End time: 0323 (am/pm)

Start Temp: 74°F °C End Temp: 93°F °C

Live Tortoises

Detection number	GPS location Easting	GPS location Northing	Time	Tortoise location (*in burrow*: all of tortoise beneath plane of burrow opening, or *not in burrow*)	Approx MCL >160-mm? (Yes, No, or Unknown)	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting	GPS location Northing	Type of sign (*burrows, scats, carcass, etc*)	Description and comments
1	591852	3840005	carcass class II	very old bone fragments, next to road
2				
3				
4				
5				
6				
7				
8				

USFWS 2010 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Please submit a completed copy to the action agency and local USFWS office within 30-days of survey completion

Date of survey: 18/10/2017 (day, month, year) Survey biologist(s): N. Moorhatch (name, email, and phone number)

Site description: Ash Hill Access Route Survey (project name and size; general location)

County: San Bndo Quad: Ash Hill / Siberia Location: Ash Hill location (UTM coordinates, lat-long, and/or TRS, map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: _____ Transect #: 3 Transect length: 5.2 mi.

GPS Start-point: 589485 3841941 604m (easting, northing, elevation in meters) Start time: 0800 am/pm

GPS End-point: 589301 3837967 499m (easting, northing, elevation in meters) End time: 1523 am/pm

Start Temp: 74 °F End Temp: 93 °F

Live Tortoises

Detection number	GPS location Easting	Northing	Time	Tortoise location (*in burrow*: all of tortoise beneath plane of burrow opening, or *not in burrow*)	Approx MCL >160-mm? (*Yes, No or Unknown*)	Existing tag # and color, if present
1						
2				NONE		
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting	Northing	Type of sign (*burrows, scats, carcass, etc*)	Description and comments
1	592003	3841234	Scat (2)	Class 2-3
2	591690	3840927	Burrow	Class 4
3				
4				
5				
6				
7				
8				

Atriplex hymenelytra ✓ LOSH ✓ ROWR ✓ Lepus cal. ✓ Encelia virgensii ? ✓ Krameria grayi ✓ YRWA ✓
Larrea ✓ * Schismus sp ✓ Atriplex canescens ✓ Bebbia juncea ✓
Gilia sp. (dead) ✓ Plantago ovata ✓ Asclepias subulata ✓
Ambrosia dumosa ✓

Page: ____ of ____ → more

USFWS 2010 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Please submit a completed copy to the action agency and local USFWS office within 30-days of survey completion

Date of survey: 10/10/17 (day, month, year) Survey biologist(s): Jennifer Toban (name, email, and phone number)

Site description: Ash Hill Access Route Survey (project name and size; general location)

County: _____ Quad: Ash Hill / Siberia Location: Ash Hill Location (UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: _____ Transect #: 4 Transect length: 5.2mi

GPS Start-point: 589493 3841934 601m (easting, northing, elevation in meters) Start time: 0800 am/pm

GPS End-point: 589296 3837973 501m (easting, northing, elevation in meters) End time: 1523 am/pm

Start Temp: 74 °F End Temp: 93 °F

Live Tortoises

Detection number	GPS location Easting	GPS location Northing	Time	Tortoise location (*in burrow*: all of tortoise beneath plane of burrow opening, or *not in burrow*)	Approx MCL >180-mm? (Yes, No, or Unknown)	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting	GPS location Northing	Type of sign (*burrows, scats, carcass, etc*)	Description and comments
1	592040	3841280	carcass fragment	class 5 single scute w/ attached bone
2			burrow	class 4 some filling in off transect
3	592010	3841251	burrows	class 2, 2 burrows
4				
5				
6				
7				
8				

USFWS 2010 Desert Tortoise Pre-Project Survey Data Sheet

Please submit a completed copy to the action agency and local USFWS office within 30-days of survey completion

Date of survey: 19/10/17 (day, month, year) Survey biologist(s): Nathan Moorhatch (name, email, and phone number)

Site description: Ash Hill Access Route Survey (project name and size; general location)

County: San Bndo. Quad: Ash Hill/Siberia Location: Ash Hill Location (UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: _____ Transect #: 1 Transect length: 5.2 miles

GPS Start-point: 589480 3841951 600m (easting, northing, elevation in meters) Start time: 0745 am/pm

GPS End-point: 589313 3837940 499m (easting, northing, elevation in meters) End time: 1504 am/pm

Start Temp: 73 °F End Temp: 92 °F

Live Tortoises

Detection number	GPS location Easting	Northing	Time	Tortoise location (*in burrow*: all of tortoise beneath plane of burrow opening, or *not in burrow*)	Approx MCL >160-mm? (Yes, No or Unknown)	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

NO LIVE

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting	Northing	Type of sign (*burrows, scats, carcass, etc*)	Description and comments
1	590804	3841813	Carcass fragment	1 small piece (old) class 5 in midden Neotoma
2	591909	3840235	Scat (1)	Class 2 (adult)
3				
4				
5				
6				
7				
8				

2010 Field Season

Dalea mollis ✓ Langlosia setosissima? ✓ Psorothamnus spinosus ✓ Cylindropuntia echinocarpa ✓

Tidestromia oblongifolia (Chorizanthe sweetii) ✓ Senna armata ✓ Aspidoscelis tigris

USFWS 2010 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Please submit a completed copy to the action agency and local USFWS office within 30-days of survey completion

Date of survey: 9/10/17 (day, month, year) Survey biologist(s): Jennifer Tobin (name, email, and phone number)

Site description: Ash Hill Access Route survey (project name and size; general location)

County: San Bernardino Quad: Ash Hill/Siberia Location: Ash Hill Location (UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: _____ Transect #: 2 Transect length: 5.2 miles

GPS Start-point: 589484, 3841949 602m (easting, northing, elevation in meters) Start time: 0745 (am)/pm

GPS End-point: 589317, 3837932 497m (easting, northing, elevation in meters) End time: 1504 am/(pm)

Start Temp: 73 °C End Temp: 92 °C

Live Tortoises

Detection number	GPS location Easting	GPS location Northing	Time	Tortoise location (*in burrow*: all of tortoise beneath plane of burrow opening, or *not in burrow*)	Approx MCL >180-mm? (Yes, No or Unknown)	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting	GPS location Northing	Type of sign (*burrows, scats, carcass, etc*)	Description and comments
1	590703	3841741	scat	class 2, 2 pieces
2	591030	3841515	scat	2 pieces, class 3 and class 4 in woodrat midden
3	591865	3840014	carcass	Class 5, very old fragments, likely the same as across the road
4	591634	3839468	carcass	class 5, old bone fragments
5	591396	3839203	burrow	class 1 w/ tracks
6				
7				
8				

USFWS 2010 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Please submit a completed copy to the action agency and local USFWS office within 30-days of survey completion

Date of survey: 10/19/17 (day, month, year) Survey biologist(s): John Green (name, email, and phone number)

Site description: Ash Hill Access Route Survey (project name and size; general location)

County: San Bern Quad: Ash Hill/Silberia Location: Ash Hill Location (UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: _____ Transect #: 3 Transect length: 5.2mi

GPS Start-point: 589490, 3841943 599m (easting, northing, elevation in meters) Start time: 0745 am/pm

GPS End-point: 589347 3837888 498m. (easting, northing, elevation in meters) End time: 1505 am/pm

Start Temp: 73 °C F End Temp: 92° °C F

Live Tortoises

Detection number	GPS location Easting	GPS location Northing	Time	Tortoise location (*in burrow*: all of tortoise beneath plane of burrow opening, or *not in burrow*)	Approx MCL >160-mm? (Yes, No or Unknown)	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting	GPS location Northing	Type of sign (*burrows, scats, carcass, etc*)	Description and comments
1	591924	3840207	burrow, footprints	Class 1
2				
3				
4				
5				
6				
7				
8				

2017 Field Season

CORA BESP

USFWS 2010 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Please submit a completed copy to the action agency and local USFWS office within 30-days of survey completion

Date of survey: 9/10/17 (day, month, year) Survey biologist(s): Michelle Tobin (name, email, and phone number)

Site description: Ash Hill Access Route Survey (project name and size; general location)

County: San Bernardino Quad: Ash Hill/Siberia Location: Ash Hill Location (UTM coordinates, lat-long, and/or TRS; map datum)

Circle one: 100% coverage or Sampling Area size to be surveyed: _____ Transect #: 4 Transect length: 5.2mi

GPS Start-point: 589495, 3841937 600m (easting, northing, elevation in meters) Start time: 07:45 (am)/pm

GPS End-point: 589358, 3837868 500m (easting, northing, elevation in meters) End time: 03:02 am (pm)

Start Temp: 73°F°C End Temp: 92°F°C

Live Tortoises

Detection number	GPS location Easting	Northing	Time	Tortoise location (*in burrow*: all of tortoise beneath plane of burrow opening, or *not in burrow*)	Approx MCL >160-mm? (Yes, No or Unknown)	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting	Northing	Type of sign (*burrows, scats, carcass, etc*)	Description and comments
1	592025	3841154	scat class II	One piece [redacted] class II, adult
2	592003	3841069	scat class II	2 pieces, juverile
3	592002	3841062	scat class II	very shiny, [redacted] smaller adult
4	591971	3841007	scat class V	usuable caliche shelter nearby
5	591650	3839442	carcass class IV	plastron fragments
6	591619	3839419	carcass class IV	from same as above
7	591599	3839385	tortoise track	are footprint
8	591532	3839318	burrow class I	tracks + plastron slide in apron, adult