Appendix A

Visual Simulations

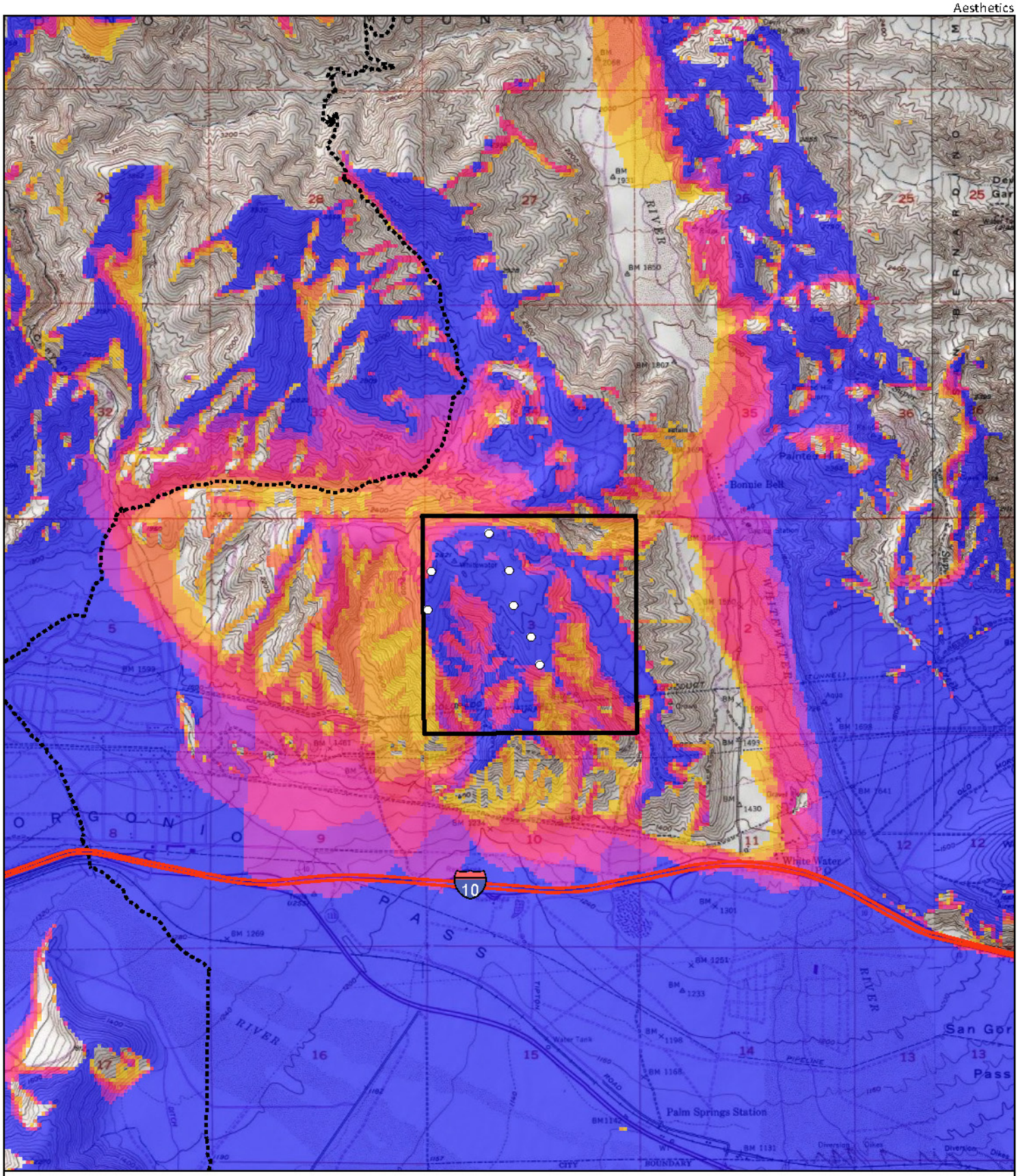
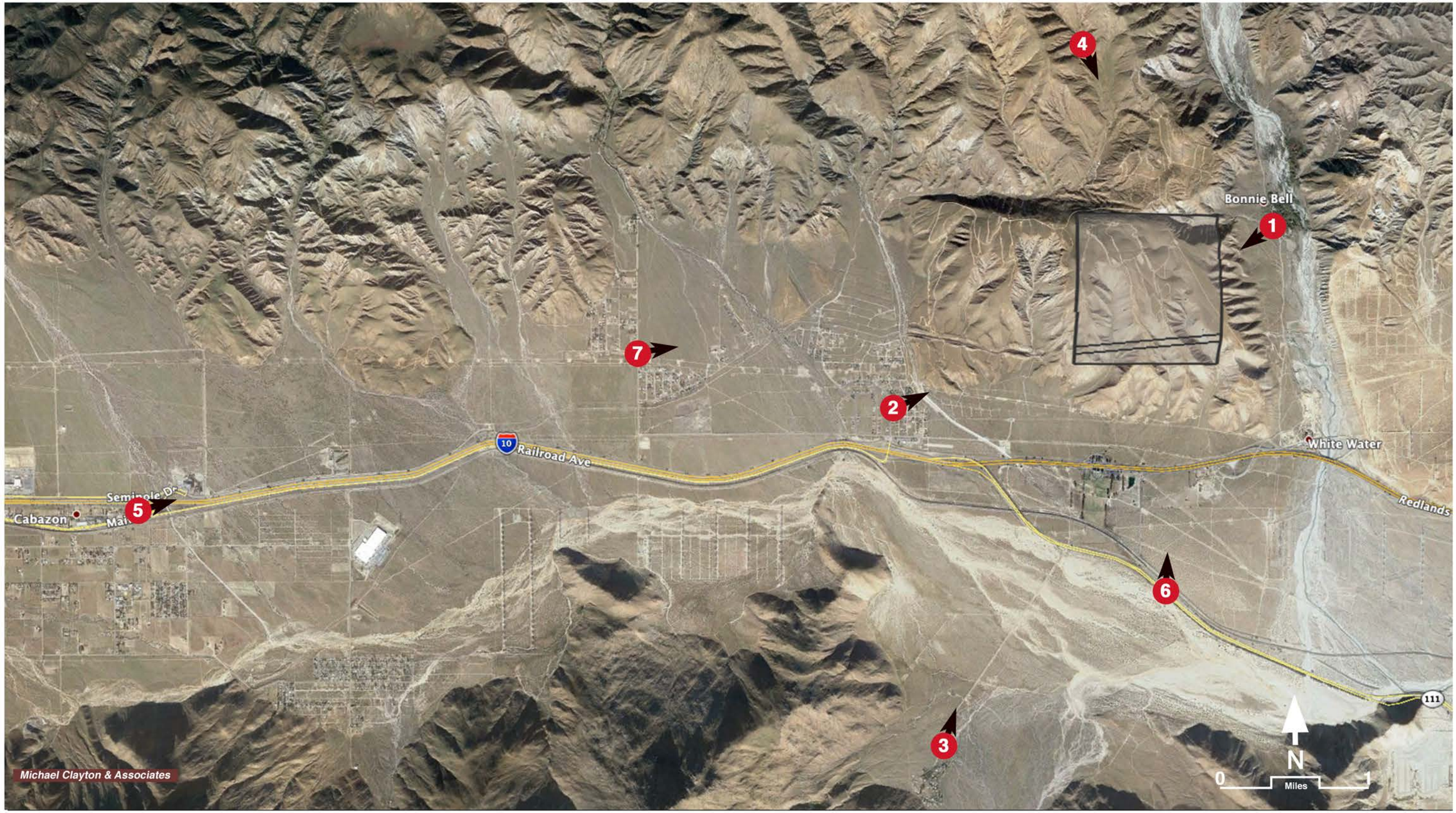


Figure 1. Viewshed Analysis



LEGEND

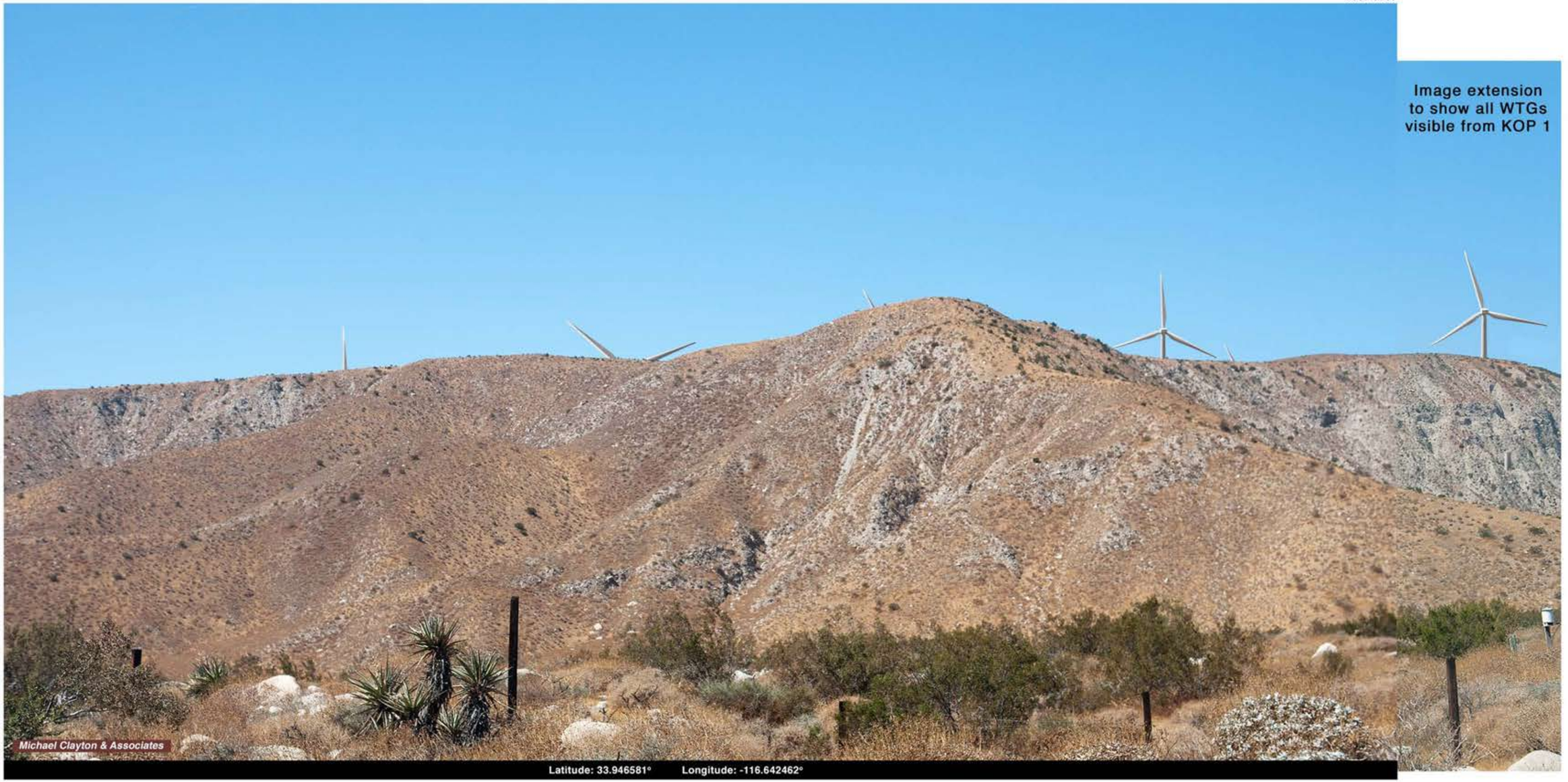
2 Key Observation Point (KOP)

Alta Mesa Project Boundary

KOP Map

Alta Mesa Repower Project
Aesthetics
Figure 2

This image presents the **Existing View** to the southwest from **KOP 1** on Whitewater Canyon Road at the south end of the residential community of Bonnie Bell. This view captures a portion of the ridge that forms the western border of Whitewater Canyon. The landscape appears relatively undeveloped, though further to the south along the ridge are electric transmission line structures and wind turbine generators (WTGs) that are visible to the north.	**KOP 1** **Bonnie Bell** **Existing View**	**AM Wind Repower Project** **Aesthetics** **Figure 3a**



This image presents a **Visual Simulation** of the proposed Project as viewed from **KOP 1** on Whitewater Canyon Road at the south end of the residential community of Bonnie Bell. As shown in the simulation, portions of seven of the eight proposed WTGs would be visible in this frame of view. The viewing distances from KOP 1 to the visible WTGs would range from approximately 1.1 miles to approximately 1.4 miles. The structures would be visually noticeable features along the ridgeline.	**KOP 1** **Bonnie Bell** **Visual Simulation**	**AM Wind Repower Project** **Aesthetics** **Figure 3b**

This image presents the **Existing View** to the northeast from **KOP 2** on Haugen-Lehmann Way in the rural residential community of White Water. This view captures a portion of the sparsely vegetated hillslopes and ridge that border the eastern perimeter of the residential community. The ridges northeast of the community presently host numerous wind turbine generators as is apparent in the image.	**KOP 2** **White Water** **Existing View**	**AM Wind Repower Project** **Aesthetics** **Figure 4a**

This image presents a **Visual Simulation** of the proposed Project as viewed from **KOP 2** on Haugen-Lehmann Way in the rural residential community of White Water. As shown in the simulation, portions of the eight proposed WTGs would be visible along the ridgeline bordering the eastern perimeter of the residential community. The proposed Project also includes removal of the existing, lower-capacity WTGs (single-pole support structures) presently on site.	**KOP 2** **White Water** **Visual Simulation**	**AM Wind Repower Project** **Aesthetics** **Figure 4b**

This image presents the **Existing View** to the north from **KOP 3** on Snow Creek Road, just north of the rural residential enclave of Snow Creek Village. This expansive view to the north across San Gorgonio Pass captures a portion of the ridge north of I-10 where the proposed Project would be located. The grouping of WTGs extending above the ridgeline in the center of the image would be replaced by proposed Project. The landscape is decidedly rural in character but hosts numerous energy facilities.

KOP 3
Snow Creek Village

Existing View

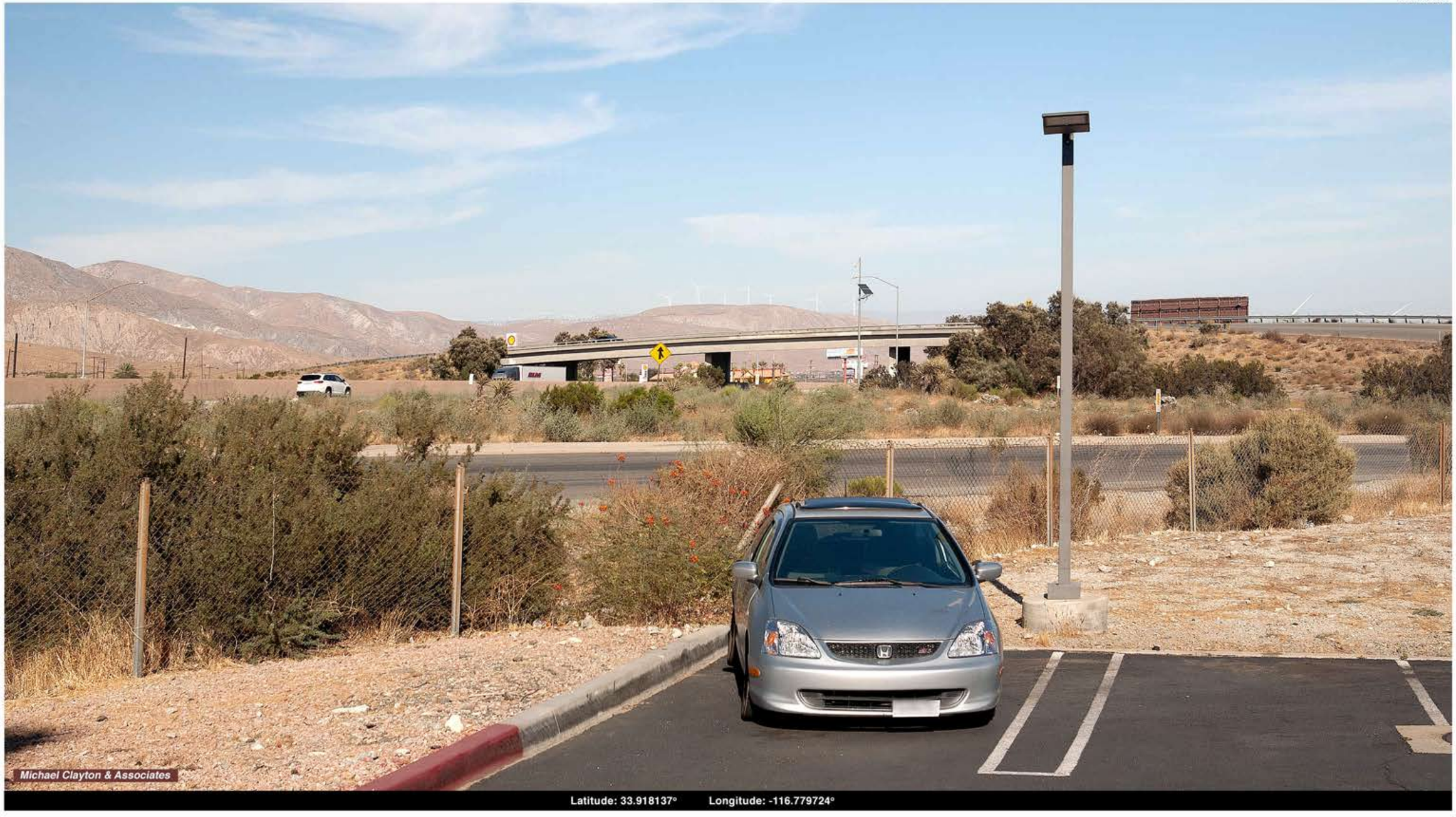
AM Wind Repower Project
Aesthetics
Figure 5a

This image presents a **Visual Simulation** of the proposed Project as viewed from **KOP 3** on Snow Creek Road, just north of the rural residential enclave of Snow Creek Village. As shown in the simulation, portions of the eight proposed Alta Mesa WTGs would be prominently visible along the ridgeline of the San Bernardino Mountains north of 1-10. The proposed Project also includes removal of the numerous, existing, lower-capacity WTGs (single-pole support structures presently on site.	**KOP 3** **Snow Creek Village** **Visual Simulation**	**AM Wind Repower Project** **Aesthetics** **Figure 5b**

This image presents the **Existing View** to the south from **KOP 4** on the Pacific Crest Trail, approximately 1.25 miles north of the location of the proposed Project. The imposing form of Mount San Jacinto in the background, is the dominant feature in a landscape that, while predominantly natural in appearance, hosts several wind farms with numerous WTGs that exhibit a contrasting industrial character, as shown in this image.	**KOP 4** **Pacific Crest Trail** **Existing View**	**AM Wind Repower Project** **Aesthetics** **Figure 6a**

This image presents a **Visual Simulation** of the proposed Project as viewed from **KOP 4** on the Pacific Crest Trail, approximately 1.25 miles north of the location of the proposed Project. As shown in the simulation, portions of all eight WTGs would be visible along the ridgelines in the center of the image The proposed Project includes the removal of numerous, existing, lower-capacity WTGs (single-pole support structures) presently on site.	**KOP 4** **Pacific Crest Trail** **Visual Simulation**	**AM Wind Repower Project** **Aesthetics** **Figure 6b**

This image presents the **Existing View** to the east-northeast from **KOP 5 in** Cabazon at the Circle **K** parking lot, adjacent to the Main Street off-ramp from 1-10, approximately 6.7 miles west-southwest of the location of the proposed Project. This view encompasses an urban freeway landscape of off-ramps and overpasses, backdropped by the southeast extent of the San Bernardino Mountains. Existing WTGs are faintly visible along the ridgelines upon which the proposed Project would be located.	**KOP 5** **Cabazon** **Existing View**	**AM Wind Repower Project** **Aesthetics** **Figure 7a**



This image presents the **Visual Simulation** of the proposed Project as viewed from **KOP 5** in Cabazon at the Circle **K** parking lot, adjacent to the Main Street off-ramp from 1-10. As shown in the simulation, portions of all eight WTGs would be visible (though not prominent) along the distant ridgelines visible above the Main Street overpass in the center of the image. The proposed Project also includes removal of the existing, lower-capacity WTGs (tubular support structures) presently on site.	**KOP 5** **Cabazon** **Visual Simulation**	**AM Wind Repower Project** **Aesthetics** **Figure 7b**

This image presents the **Existing View** to the north from **KOP 6** on SR-111, approximately 0.8 mile east of Snow Creek Road and approximately 1.9 miles south of the location of the proposed Project. This view encompasses the southeastern extent of the San Bernardino Mountains and the ridges north of I-10 where the proposed Project would be located. The grouping of WTGs extending above the ridgeline in the center of the image would be replaced by the proposed Project.

KOP 6
SR-111

Existing View

AM Wind Repower Project
Aesthetics
Figure 8a

This image presents a **Visual Simulation** of the proposed Project as viewed from **KOP 6** on SR-111, approximately 0.8 mile east of Snow Creek Road. As shown in the simulation, portions of all eight WTGs would be prominently visible along the ridgeline north of 1-10. The proposed Project also includes removal of the numerous, existing, lower-capacity WTGs (single-pole support structures) presently on site.	**KOP 6** SR-111 **Visual Simulation**	**AM Wind Repower Project** **Aesthetics** **Figure 8b**

This image presents the **Existing View** to the east from **KOP 7** on Rushmore Avenue near Penland Road in the rural residential community of White Water (west). This view captures a portion of the sparsely vegetated hillslopes and ridges that border the eastern perimeter of the residential community. The ridges northeast of the community presently host numerous wind turbine generators, the closest string of which is approximately 2.7 miles east of KOP 7.	**KOP 7** **White Water West** **Existing View**	**AM Wind Repower Project** **Aesthetics** **Figure 9a**

This image presents a **Visual Simulation** of the proposed Project as viewed from **KOP 7** on Rushmore Avenue near Penland Road in the rural residential community of White Water (west). As shown in the simulation, portions of the eight proposed WTGs would be prominently visible along the ridgeline bordering the eastern perimeter of the residential community. The proposed Project also includes removal of the existing, lower-capacity WTGs (single-pole support structures) presently on site.	**KOP 7** **White Water West** **Visual Simulation**	**AM Wind Repower Project** **Aesthetics** **Figure 9b**

Latitude: 33.946581° Longitude: -116.642462°

This image presents a **Cumulative Simulation** of the **revised** Alta Mesa and Mesa Wind Repower projects as viewed from **KOP 1** on Whitewater Canyon Road at the south end of the residential community of Bonnie Bell. As shown in the simulation, portions of seven Alta Mesa WTGs would be visible along the ridgelines west of Bonnie Bell. Portions of three Mesa Wind Project WTGs (right center to far right of image would also be visible along the ridgeline. All of the existing turbines would be removed from the ridges.	**KOP 1** **Bonnie Bell** **Cumulative Simulation**	**Alta Mesa & Mesa Wind Repower Projects** **Figure 10a**

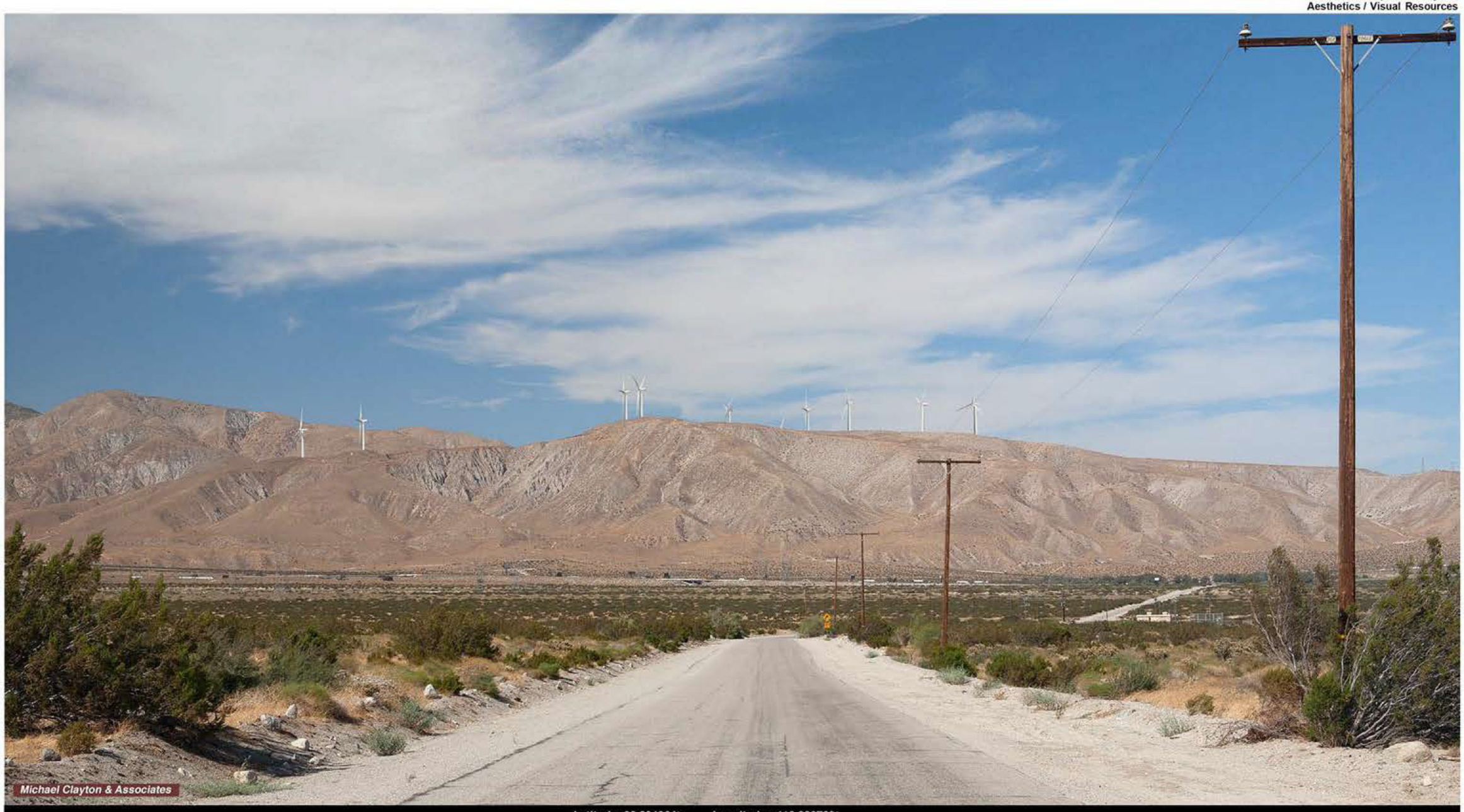
Latitude: 33.928230° Longitude: -116.689077°

This image presents a **Cumulative Simulation** of both the proposed Alta Mesa and Mesa Wind Repower Projects as viewed from **KOP 2** on Haugen-Lehmann Way in the rural residential community of White Water. As shown in the simulation, portions of seven Alta Mesa WTGs would be visible along the ridgeline bordering the eastern perimeter of the residential community. Two (left-center) Mesa Wind WTGs would be visible on the ridge to the northeast of the community. All existing turbines would be removed.

KOP 2
White Water

Cumulative Simulation

Alta Mesa & Mesa Wind Repower Projects
Figure 10b



This image presents a **Cumulative Simulation** of both the proposed Alta Mesa and Mesa Wind Repower Projects as viewed from KOP 3 on Snow Creek Road, just north of the rural residential enclave of Snow Creek Village. As shown in the simulation, portions of seven Alta Mesa WTGs would be visible in the central part of the image. Two Mesa Wind WTGs would be prominently visible in the left side of image while the blade tips of a third Mesa WTG rotor would be partially visible in the central part of the image.

KOP 3
Snow Creek Village
Cumulative Simulation

Alta Mesa & Mesa Wind Repower Projects
Figure 10c

Appendix B

Biological Resources Technical Report

Biological Resources Technical Report
Alta Mesa Wind Repower Project

Prepared for:

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April 2020

Contents

Tables

Attachments

Biological Resources Technical Report: Alta Mesa Wind Repower Project

Aspen Environmental Group
March 2020

1.0 Introduction

This report presents the methods and results of biological resources field surveys, including focused surveys for desert tortoise and special-status plants that were conducted in 2019 at the proposed Alta Mesa Wind Repower Project site (AM Project), located on private land in unincorporated Riverside County, California (Figure 1). This report provides baseline information on biological resources to support the California Environmental Quality Act (CEQA) review process, Coachella Valley Multispecies Habitat Conservation Plan (CVMSHCP) consistency review, and permitting for the proposed project.

1.1 Project Description

Brookfield Renewable Partners proposes to repower an existing wind energy project located in Riverside County, 11 miles northwest of the City of Palm Springs, on land zoned as Wind Energy (W-E). W-E zoning allows the development of wind energy subject to the approval of a Commercial WECS application. The existing project consists of 159 turbines generating 27 megawatts (MW) and has a disturbance area of about 40 acres including access roads, pad sites for wind turbine generators (WTGs), and operations and maintenance (O&M) facilities. The original project was approved in 1986 and was installed in three phases between 1987 and 1997. The proposed AM Project would repower the site for up to 39 MW by replacing and upgrading wind energy generation equipment and facilities. The AM Project would remove the legacy turbines and install up to 14 new wind turbine generators (Figure 1). The number of turbines may be reduced during the design and review process, but access routes would be as shown on Figure 1. Portions of the access road are located on the adjacent Mesa Wind Project on land administered by the Bureau of Land Management (BLM) and are under environmental review for that project.

1.2 Project Location

The project site is located in the San Gorgonio Pass on private lands (APNs 516020001, 516020002, and 516020003). It is west of the Whitewater River and east of Cottonwood Creek, shown on the White Water USGS 7.5-minute topographic quad. Elevation of the project area ranges from approximately 2,160 feet at the southeastern corner of the site to 2,821 in the northwestern portion of the site.

Most surrounding lands are natural open space, with the exception of adjacent parcels to the north and west that are also in use for wind energy production (the Mesa Wind Project). Nearby communities include the community of Whitewater accessed from Haugen-Lehmann Way, southwest of the site; the community of Bonnie Bell to the east; and the community of Snow Creek south of Interstate 10.

The AM Project site is within the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) boundaries (CVAG 2007). The CVMSHCP is addressed in Section 3.6 of this report. It provides state and federal Endangered Species Act coverage for listed species as well as mitigation coverage for multiple other special-status plants and animals.

2.0 Methods

2.1 Literature Review

Prior to field surveys, Aspen biologists reviewed data sources and prior reports to identify special-status biological resources known from the vicinity. The literature and databases listed below were reviewed.

- CNDDB (CDFW 2019a) for the following 7.5-minute USGS topographic quads: Cabazon, Catclaw Flat, Desert Hot Springs, Lake Fulmor, Morongo Valley, Palm Springs, San Gorgonio Mountain, San Jacinto Peak, and White Water;
- CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2019), for the same topographic quads;
- Coachella Valley Multiple Species Habitat Conservation Plan (CVAG 2007); and
- Biological Resources Assessment, Focused Burrowing Owl Survey, Desert Tortoise Protocol Survey, Jurisdictional Delineation, and CVMSHCP Consistency Analysis for the Alta Mesa 640 Windfarm, Whitewater, Riverside County, California (Jericho Systems, Inc. 2018).

2.2 Field Surveys

2.2.1 Focused Desert Tortoise and Botanical Surveys

Focused concurrent field surveys during 2019 provided 100 percent visual coverage of all safely accessible areas within the survey area (Figure 1), conducted by walking along parallel transects at 10-meter intervals. The survey dates, field team, and weather conditions for each date are listed in Table 1. During the field surveys, all plant and wildlife species noted were recorded in field notes and sensitive species locations were recorded using hand-held GPS units.

Table 1. 2019 Focused Survey Dates and Team.

		Weather Conditions[1]							
		Time		Temp (°F)		Winds (mph)		Cloud Cover	
Date	Biologist[2]	Start	End	Start	End	Start	End	Start	End
24-May	AD, BL, GS, JA, SK	630	1400	57	77	2-4	4-7	Clear	20%
30-May	AD, BL, GS, SK	630	1400	68	89	4-7	8-12	Clear	Clear
31-May	AD, BL, GS, SK	630	1230	73	94	0-2	4-7	Clear	5%
18-July	JA, SK	630	1230	-	-	-	-	-	-

1. Temperature and wind speed measured with Kestrel 3000.
2. AD=Adam DeLuna, BL=Brian Leatherman, GS=Greg Stratton, JA= Jacob Aragon, SK=Shaun Kehrmeyer

The field surveys conformed to full coverage desert tortoise protocol surveys (USFWS 2010). All tortoise sign (e.g., live tortoises, burrows/pallets, tracks, scat, or other indication of current or previous tortoise occurrence) observed was recorded. The condition of burrows was categorized according to the following class designations (USFWS 2009b):

- Class 1. Currently active, with desert tortoise or recent desert tortoise sign;
- Class 2. Good condition (no evidence of recent use), definitely desert tortoise;
- Class 3. Deteriorated condition (including collapsed burrows), definitely desert tortoise;

- Class 4. Good condition - possibly desert tortoise; and
- Class 5. Deteriorated condition (including collapsed burrows), possibly desert tortoise.

In addition to the parallel transects, each concrete foundation on the site was inspected by Jacob Aragon and Shaun Kehrmeyer for potential desert tortoise burrows (see Figure 2 and Attachment 6). This is because Lovich and Daniels (2000) have reported that desert tortoises excavate or occupy burrows beneath concrete foundations at the adjacent Mesa Wind site. Most of the legacy turbines, as well as electrical boxes or other infrastructure, are supported by concrete slab foundations allowing for tortoise burrow construction beneath them. Some of the legacy turbines are built on deep concrete pier foundations where there is no accessible soil for burrow excavation.

The botanical surveys were conducted in conformance with California Department of Fish and Wildlife guidelines (CDFW 2018a). The botanical surveys were (a) conducted during flowering seasons for the special status plants known from the area, (b) floristic in nature, (c) consistent with conservation ethics, (d) systematically covered all habitat types on the sites, and (e) well documented, by this report and by voucher specimens to be deposited at Rancho Santa Ana Botanic Garden. Plants of uncertain identity were collected and identified later using keys, descriptions, and illustrations in Baldwin et al. (2012), the Jepson eFlora database of California plants (Jepson Flora Project 2019), and other regional references. All plant species observed during the surveys are listed in Attachment 4.

Rainfall: Average annual precipitation recorded at the Cabazon weather station (Station No. 041250), located approximately 5.5 miles west of the site, is 15.72 inches (39.9 cm; WRCC 2013). Rainfall during 2018-2019 rainy season was above average at 18.53 inches (47.07 cm; WRCC 2019). Due to the above-average rainfall during the 2018-19 season and widely-reported exceptional flowering season ("superbloom"), the 2019 survey results should have been conclusive, and it is likely that special-status plants would have been found during the survey, if present.

2.2.2 Vegetation

Vegetation maps were prepared by drawing tentative vegetation-type boundaries onto high-resolution aerial images during the 2019 site visits, then digitizing these boundaries into GIS, and confirming the mapping on a subsequent 2019 site visit by Justin Wood (see Figure 3).

Vegetation in the survey area was difficult to distinguish on aerial images due to homogeneous vegetation structure throughout much of the site. The smallest mapping unit was approximately 0.25 acre; GIS data for most mapped vegetation boundaries is accurate to within 3 feet. Any vegetation map is subject to imprecision for several reasons:

- Vegetation types tend to intergrade on the landscape so that there are no true boundaries in the vegetation itself. In these cases, a mapped boundary represents best professional judgment.
- Vegetation types as they are named and described tend to intergrade; that is, a given stand of real-world vegetation may not fit into any named type in the classification scheme used. Thus, a mapped and labeled polygon is given the best name available in the classification, but this name does not imply that the vegetation unambiguously matches its mapped name.
- Vegetation tends to be patchy. Small patches of one named type are often included within mapped polygons of another type. The size of these patches varies, depending on the minimum mapping units and scale of available aerial imagery.
- Photo interpretation of some types is difficult, such as distinguishing brittlebush scrub from California sagebrush-California buckwheat scrub.

Several non-native and invasive plants species were common throughout the site, particularly several species in the mustard family (e.g., Sahara mustard, shortpod mustard) and grass family (e.g., slender wild-oat, red brome, cheatgrass, and Mediterranean schismus). They tended to be most common at the upstream side of culverts or other sites that may briefly impound storm flows. All non-native species are indicated by an asterisk in Attachment 4 (Species List).

3.0 Results

Based upon review of the literature, databases, and field surveys identified above, Aspen biologist Justin Wood compiled a list of special-status species that are present or may be found in the vicinity of the AM site. Plant and wildlife species classified as one or more of the following are considered special-status species in this report:

- Listed, proposed for listing, or candidates for listing as threatened or endangered under the federal Endangered Species Act (ESA)
- Listed as threatened or endangered, or candidates for listing under the California Endangered Species Act (CESA)
- Plants listed as rare under the California Native Plant Protection Act
- Meet the definition of rare or endangered under CEQA §15380(b) and (d)
- Considered special-status species in local or regional plans, policies, or regulations

Three of the 7.5-minute USGS topographic quads reviewed (Lake Fulmor, San Gorgonio Mountain, and San Jacinto Peak) represent much higher elevations and very different habitats than those present on the project site, and the CNDDB contains numerous records of special-status species from those quads that have no potential for occurrence in the survey area. Therefore, these three quads were excluded from this report. Many of the special-status species identified in the remaining six quads are found only in specialized native habitats (e.g., wetlands, riparian, or high elevation mountains) that are not present in the project vicinity. These plants and animals are listed in Table 2, but are not addressed further in this report. Table 3 lists all special-status plants and animals known from comparable habitats within the region and summarizes their habitat, distribution, conservation status, and probability of occurrence on the site.

Table 2. Special Status Species Not Addressed.[1]

Latin Name	Common Name	Reason for Exclusion
PLANTS		
Allium marvinii	Yucaipa onion	No suitable clay soils present.
Almutaster pauciflorus	Alkali marsh aster	No suitable alkali meadow or seep habitat.
Astragalus pachypus var. *jaegeri*	Jaeger's milk-vetch	East of geographic range.
Atriplex parishii	Parish's brittlescale	No suitable alkali playa or chenopod scrub habitat.
Boechera lincolnensis (*Arabis pulchra* var. *munciensis*)	Lincoln rockcress	No suitable carbonate soils; below elevational range.
Boechera parishii	Parish's rockcress	Below elevational range.
Calochortus palmeri var. palmeri	Palmer's mariposa-lily	No suitable meadow habitat.
Caulanthus simulans	Payson's jewel-flower	Well outside of known geographic range.
Chamaesyce arizonica (Euphorbia arizonica)	Arizona spurge	Outside of known range; no suitable sand flat habitat present.

Table 2. Special Status Species Not Addressed.[1]

Latin Name	Common Name	Reason for Exclusion
Deinandra mohavensis	Mojave tarplant	Well outside of known range; no suitable chaparral habitat present.
Dodecahema leptoceras	Slender-horned spineflower	No suitable mature alluvial bench habitat.
Eriastrum harwoodii	Harwood's eriastrum	No suitable dune or stabilized windblown sand habitat.
Euphorbia arizonica	Arizona spurge	West of geographic range.
Heuchera hirsutissima	Shaggy-haired alumroot	Below elevational range.
Heuchera parishii	Parish's alumroot	Below elevational range.
Horkelia cuneata var. puberula	Mesa horkelia	Well outside known geographic range.
Imperata brevifolia	California satintail	No suitable meadow or riparian habitat.
Ivesia argyrocoma var. argyrocoma	Silver-haired ivesia	Below elevational range.
Lilium parryi	Lemon lily	Below elevational range.
Linanthus jaegeri	San Jacinto linanthus	Below elevational range.
Linanthus orcutti	Orcutt's linanthus	East of geographic range.
Monardella robisonii	Robison's monardella	Well outside known geographic range.
Nemacaulis denudata var. gracilis	Slender cottonheads	No suitable aeolian sand habitat present.
Petalonyx linearis	Narrow-leaf sandpaper-plant	Well to west of extant geographic range.
Silene krantzii	Krantz's catchfly	Well below elevation range.
Stemodia durantifolia	Purple stemodia	No suitable wetland habitat present.
Streptanthus campestris	Southern jewel-flower	Well outside known geographic range.
Symphyotrichum defoliatum	San Bernardino aster	No suitable meadow or riparian habitat.
Thelypteris puberula var. sonorensis	Sonoran maiden fern	No suitable wetland habitat present.
Xylorhiza cognate	Mecca-aster	Well outside known geographic range.
INVERTEBRATES		
Bombus caliginosus	Obscure bumble bee	Outside of geographic range (Santa Barbara Co. and north). Historic record from Strawberry Valley is doubtful.
Calileptoneta oasa	Andreas Canyon leptonetid spider	Outside known geographic range (known from a single location near Palm Springs).
Dinacoma caseyi	Casey's June beetle	Outside known geographic range; no suitable alluvial silt deposits in the survey area.
Eremarionta morongoana	Morongo (=Colorado) desertsnail	No suitable wash habitat.
Macrobaenetes valgum	Coachella giant sand treader cricket	No suitable aeolian sand habitat present.
AMPHIBIANS		
Anaxyrus californicus (Bufo californicus, Bufo microscaphus californicus)[2]	Arroyo toad	No suitable wash habitat with seasonal intermittent stream flows present.
Ensatina eschscholtzii klauberi	Large-blotched salamander	No suitable seep or mesic forest understory habitat.
Rana draytonii[3]	California red-legged frog	No suitable aquatic habitat present.
Rana muscosa[4]	Sierra Madre yellow-legged frog	No suitable aquatic habitat present.
REPTILES		
Aspidoscelis tigris stejnegeri	Coastal whiptail	East of the geographic range (the common desert subspecies occurs on site).
Phrynosoma mcallii	Flat-tailed horned lizard	No suitable aeolian sand habitat present.
Thamnophis hammondii	Two-striped garter snake	No suitable aquatic habitat present.

Table 2. Special Status Species Not Addressed.[1]

Latin Name	Common Name	Reason for Exclusion
Uma inornata	Coachella Valley fringe-toed lizard	No suitable aeolian sand habitat present.
BIRDS		
Icteria virens	Yellow-breasted chat	No suitable riparian vegetation present.
Myiarchus tyrannulus	Brown-crested flycatcher	No suitable desert woodland or riparian vegetation present.
Piranga rubra	Summer tanager	No suitable riparian vegetation present.
Progne subis	Purple martin	No suitable woodland or forest habitat present.
Pyrocephalus rubinus	Vermilion flycatcher	No suitable riparian vegetation present.
Toxostoma crissale	Crissal thrasher	Outside known geographic range; minimal habitat present.
MAMMALS		
Chaetodipus californicus femoralis	Dulzura pocket mouse	Well outside of geographic range.
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	East of geographic range (desert subspecies is addressed in Table 3).
Dipodomys merriami parvus	San Bernardino kangaroo rat	Outside geographic range (San Bernardino and San Jacinto Valleys); no suitable alluvial wash habitat.
Ovis canadensis nelsoni (distinct population segment)	Peninsular bighorn sheep	Geographically restricted to the Peninsular Ranges, south of Interstate 10.
Perognathus longimembris bangsi	Palm Springs pocket mouse	West of geographic range.
Perognathus longimembris brevinasus	Los Angeles pocket mouse	No suitable wash habitat.
Xerospermophilus tereticaudus chlorus	Palm Springs round-tailed ground squirrel	No suitable sand flat or mesquite habitats; restricted to the Coachella Valley.

1. Special status species reported from the region, but not addressed in this report due to habitat or geographic range.
2. Arroyo toad has been reported from the Whitewater River; that record has since been revised due to mis-identification (Ervin et al. 2013).
3. California red-legged frog occurs upstream at the former Whitewater Trout Farm about 3.5 miles north of the Project site.
4. There are no extant or historic reports of mountain yellow-legged from the Whitewater River watershed. Almost all perennial streams in the San Bernardino, San Gabriel, and San Jacinto Mountains are identified as suitable habitat as potential sites for re-introduction.

Table 3. Special-status Species of the Cabazon/Whitewater Area.

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
PLANTS				
Abronia villosa var. *aurita* Chaparral sand verbena	Annual or perennial herb; sand, about 250-5300 ft. elev.; San Jacinto Mtns, Inland Empire, adj. Colorado Des, Orange & San Diego cos; mostly alluvial fans and benches in w Riverside Co; dunes in deserts.	Feb–Jul	Fed ESA: none CA: S2, 1B.1 MSHCP: none	Minimal; no suitable habitat on site; not seen during surveys.
Acmispon haydonii (Lotus haydonii) Pygmy lotus	Perennial herb; rocky, pinyon and juniper woodland, Sonoran Desert scrub; 1700-3940 ft. elev.; SE Peninsular ranges, SW Sonoran Desert, Baja California	Jan–Jun	Fed ESA: none CA: S3, 1B.3 MSHCP: none	Low; potentially suitable habitat; at margin of known range; not seen during surveys.

Table 3. Special-status Species of the Cabazon/Whitewater Area.

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
Ambrosia monogyra (Hymenoclea monogyra) Singlewhorl burrobush	Shrub or small tree; desert and inland cismontane flats, washes, alluvial fans; below about 1700 ft. elev.; San Bernardino Valley; San Diego Co., east to Texas and mainland Mexico	Aug–Nov	Fed ESA: none CA: S2, 2B.2 MSHCP: none	Minimal; no suitable habitat on site; not seen during surveys.
Astragalus lentiginosus var. *coachellae* Coachella Valley milk-vetch	Annual or perennial herb; open sand, gen. dunes but also wash margins; below about 2200 ft. elev.; endemic to Coachella Valley. 4.3 ac of CVMSHCP modeled (but unsuitable) habitat on Project site	Feb. - May	Fed: **END** CA: S1, 1B.2 MSHCP: covered	Low; not found during protocol field survey 2019; no suitable habitat present onsite.
Astragalus tricarinatus Triple-ribbed milk-vetch	Perennial herb; exposed rocky slopes, canyon walls, alluvial fans; Whitewater Canyon, Mission Creek, and Morongo Canyon areas; ±1500 to 5000 ft. elev.	Feb–May	Fed ESA: **END** CA: S2, 1B.2 MSHCP: covered	Low; potentially suitable habitat present; not observed; known from within 1.0 mile.
Ayenia compacta California ayenia	Perennial herb; desert shrubland, gen. rocky sites, washes and mountain slopes below about 3600 ft. elev.; W low desert margins, Chuckwalla Valley, and E Mojave.	Mar–Apr	Fed ESA: none CA: S3, 2B.3 MSHCP: none	Low; suitable habitat; not observed; at western margin of the known range.
Calochortus plummerae Plummer's mariposa lily	Perennial herb (bulb.); chaparral, coastal scrub, woodland, and grassland; 300-5600 ft. elev.; LA, Orange, Riverside, San Bernardino, and Ventura Co., California endemic	May-Jul	Fed ESA: none CA: S4, 4.2 MSHCP: none	Low; potentially suitable habitat present but; not observed; known from within about one mile.
Chorizanthe parryi var. *parryi* Parry's spineflower	Annual; shrublands; open sandy places on alluvial slopes below about 5600 ft. elev.; Inland Empire and also coastal LA Co., Banning Pass, Cajon Pass	Apr–Jun	Fed ESA: none CA: S2, 1B.1 MSHCP: none	Low; suitable habitat present; not observed; known from within one mile of the site.
Chorizanthe xanti var. *leucotheca* White-bracted spineflower	Annual; sandy soil, desert shrubland, pinyon-juniper woodland, about 1000-4000 ft. elev.; Mountains and foothills, Cajon Pass and Banning Pass areas; also reported from Liebre Mtns.	Apr-Jun	Fed ESA: none CA: S3, 1B.2 MSHCP: none	Low; minimal suitable habitat on site; not seen during surveys. known from within one mile of the site.
Euphorbia misera Cliff spurge	Low shrub; coastal bluffs (Orange and San Diego cos) and rocky desert slopes (Whitewater area, Riv. Co.), below about 1700 ft. elev.	Jan–Aug	Fed ESA: none CA: S2, 2B.2 MSHCP: none	Minimal; marginal habitat; not observed; known from a single location east of Whitewater Canyon.
Linanthus maculatus subsp. *maculatus* (*Gilia maculata*) Little San Bernardino Mountains linanthus	Annual; sandy washes or dunes in desert shrubland habitats; Whitewater Cyn. through Joshua Tree Natl. Park; about 600–6800 ft. elev.	Mar–May	Fed ESA: none CA: S2, 1B.2 MSHCP: covered	Minimal; no suitable habitat on site; not seen during surveys; margin of the range.
Mentzelia tricuspis Spiny-hair blazing star	Annual; sandy or gravelly soil (exposed consolidated alluvial deposits), slopes and washes, Mojave desert scrub; 500-4200 ft. elev.; desert mts, east Sonoran Desert, to Utah, Arizona	Mar – May	Fed ESA: none CA: S2, 2B.1 MSHCP: none	Low; marginal habitat; not observed; recent specimens from within about 0.2 miles of the survey area.

Table 3. Special-status Species of the Cabazon/Whitewater Area.

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
Penstemon pseudospectabilis subsp. *pseudospectabilis* Desert beardtongue	Perennial herb; sandy washes and rocky slopes in canyons; about 300-6400 ft. elev.; scattered locations, Mojave and Colo. Deserts in California and Arizona	Jan–May	Fed ESA: none CA: S3, 2B.2 MSHCP: none	Low; suitable habitat; not detected; recent record from 4 miles south in Snow Creek.
Saltugilia latimeri (*Gilia australis*) Latimer's woodland gilia	Annual; chaparral and desert shrublands, arid mountains and foothills; about 1300-6200 ft. elev.; desert margins, Riv. Co to Inyo Co	Mar–June	Fed ESA: none CA: S3, 1B.2 MSHCP: none	Low; suitable habitat present; not detected during surveys.
Selaginella eremophila Desert spike-moss	Perennial herb; mountainous or hillside rock outcrops and crevices, about 600–3000 ft. elev.; lower desert-facing slopes of San Jacinto Mtns and adj. desert, to Texas and Baja	n/a	Fed ESA: none CA: S2S3, 2B.2 MSHCP: none	Low; suitable habitat; not observed; margin of geographic range.
INVERTEBRATES				
Bombus crotchii Crotch bumble bee	Colonial insect; open grassland and scrub; underground colonies, often in old rodent burrows. Many food plants including *Chaenactis, Lupinus, Phacelia, Salvia*, and *Eriogonum*. Much of southern and central CA, SW Nevada and Baja.	Feb-Oct	Fed ESA: none CA: **Candidate**, S1S2 MSHCP: none	Moderate; suitable habitat and food plants present; not observed; historical records from within 5 miles.
Parnopes borregoensis Borrego parnopes cuckoo wasp	Chrysidid wasp; endemic to California; Sonoran and Mojave Deserts; desert scrub, creosote bush scrub, yucca and cholla cactus, saltbush, and desert dune communities	Unknown	Fed ESA: none CA: S1S2 MSHCP: none	Low; suitable habitat; not observed; known from very few locations including one 15 miles to the northeast.
Stenopelmatus cahuilaensis Coachella Valley Jerusalem cricket	Open sand, gen. dunes and sandy/gravelly soils, endemic to Coachella Valley. 4.3 ac of CVMSHCP modeled (but unsuitable) habitat on Project site; site is outside mapped current distribution polygon (CVCC 2014)	Primarily winter (dependent on humidity and soil moisture)	Fed ESA: none CA: S1S2 MSHCP: covered	Low. Modeled habitat present on property is unsuitable; disjunct from similar aeolian sand and outside the current distribution.
REPTILES				
Anniella pulchra pulchra Silvery legless lizard	Mtns and valleys, Bay Area to N Baja (excluding desert); shrublands and woodlands, loose soils and leaf litter, below about 6500 ft. elev.	Spring–Fall	Fed ESA: none CA: S3S4, SC MSHCP: none	Low; suitable habitat; not observed; known from just west of the survey area.
Arizona elegans occidentalis *California glossy snake*	Patchily distributed from the east. San Francisco Bay, so. San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja Calif. Loose sandy soils in coastal sage scrub and grasslands.	Spring-Summer	Fed ESA: none CA: S2, SC MSHCP: none	Low; suitable habitat; not observed; known from west of the survey area.
Aspidoscelis hyperythra (Cnemidophorus hyperythra) Orange-throated whiptail	Open coastal sage scrub, chaparral; SW California to S Baja, most populations in Riverside and San Diego Cos.; sea level to about 3000 ft. elev.	Spring–Summer	Fed ESA: none CA: S2S3 MSHCP: none	Low; suitable habitat; not observed; one observation from Whitewater canyon

Table 3. Special-status Species of the Cabazon/Whitewater Area.

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
Crotalus ruber Red diamond rattlesnake	Chaparral, woodland, desert, rocky areas and dense vegetation; coastal San Diego Co. to E. slopes of the Peninsular range and north thru W. Riverside Co. into S. San Bernardino Co.; sea level to about 3000 ft. elev.	Mid-Spring–Mid-Fall	Fed ESA: none CA: S3, SC MSHCP: none	Present; two adults observed during the survey.
Gopherus agassizii (Xerobates agassizi) *Desert tortoise*	Desert shrublands where soil suitable for burrows; Mojave and Sonoran des. (E Calif., S Nevada, W Ariz., and Sonora, Mexico)	Spring–Summer	Fed ESA: **THR** CA: **THR**, S2S3 MSHCP: covered	High; no live tortoises found but old sign was present; known from within 0.1 miles.
Phrynosoma blainvillii (Phrynosoma coronatum blainvillii) Coast horned lizard	Forest, shrubland or grassland; sandy soils; W Calif. from LA Co S through N Baja Calif., below about 6000 ft. elev.	Spring–Summer	Fed ESA: none CA: S3S4, SC MSHCP: none	High; suitable habitat throughout; not observed; at margin of range.
BIRDS				
Accipiter striatus Sharp-shinned hawk	Nests in forest and woodland, hunts in woods and open areas; breeds in Sierra Nevada and N, winters through US & Cent. Amer.	Winter	Fed ESA: none CA: S4 (nesting) MSHCP: none	Nesting: minimal Winter/Migration: high
Accipiter cooperii Cooper's hawk	Nests in forest and woodland, hunts in woods and open areas; breeds through most of US, winters south through Mexico	Year-around	Fed ESA: none CA: S4 (nesting) MSHCP: none	Nesting: minimal Winter/Migration: high
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	Coastal sage scrub, open chaparral; S Calif. and NW Baja Calif.; not migratory	Year - around	Fed ESA: none CA: S3 MSHCP: none	Nesting: moderate Winter/Migration: high
Aquila chrysaetos Golden eagle	Nests in remote trees and cliffs; forages over shrublands and grasslands; breeds throughout W N America, winters to E coast	Year-around	Fed: Eagle Protection Act CA: S3, FP MSHCP: none	Nesting: minimal Year-around foraging or flyover: high
Asio otus Long-eared owl	Breed in riparian woodlands; forage (nocturnally) over open land; sea level to about 6000 ft. elev.; through N America and Eurasia	Year-around	Fed ESA: none CA: S3?, SC (nesting) MSHCP: none	Nesting: minimal Winter/Migration: high
Athene cunicularia (*Speotyto cunicularia*) Burrowing owl	Nests mainly in rodent burrows, usually in open grassland or shrubland; forages in open habitat; increasingly uncommon in S Calif.; through W US and Mexico	Year-around	Fed ESA: none CA: S3, SC (burrow sites) MSHCP: covered	Present; suitable habitat present; single adult observed.
Buteo regalis Ferruginous hawk	Forages over grassland and shrubland; winters in W and SW N Amer. (breeds in Great Basin and N plains)	Winter	Fed ESA: none CA: S3S4 (winter) MSHCP: none	Nesting: minimal Winter/Migration: high
Buteo swainsonii Swainson's hawk	Breeds in open habitats (e.g., grassland), Central Valley and W Mojave Desert (Calif.) and east to cent. US, S. Canada, New Mexico; winters in S America	Spring–Summer	Fed ESA: none CA: **THR**, S3 MSHCP: none	Nesting: minimal Migration: high

Table 3. Special-status Species of the Cabazon/Whitewater Area.

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
Calypte costae Costa's hummingbird	Breeds throughout central and southern CA, east through S AZ and south through Baja CA and Sonora, Mexico. Desert and chaparral shrublands.	Year-round	Fed ESA: none CA: S4 MSHCP: none	Present: adults observed during field surveys.
Chaetura vauxi Vaux's swift	Breeds central Calif. and northward, in coastal and montane forests; winters in Central and S America	Spring and fall migration. seasons	Fed ESA: none CA: SC S3 (nesting) MSHCP: none	Nesting: minimal Winter/Migration: high
Circus hudsonius Northern harrier	Breeds colonially in marshlands, San Diego and northward; winters to south through Central Amer.; forages over open terrain; N America and Eurasia	Winter; rare in summer	Fed ESA: none CA: SC, S3 (nesting) MSHCP: none	Nesting: minimal Winter/Migration: high
Coccyzus americanus Western yellow-billed cuckoo	Large patches of riparian forest and woodland, usually near surface water; historically common in floodplain habitats. Reported in nearby Whitewater River corridor during summer but apparently not breeding.	Spring–Fall	Fed ESA: **THR** CA: END, S1 MSHCP: none	Nesting: Minimal; no suitable habitat on or adjacent to the site; Migration: Potential flyover or stopover
Cypseloides niger Black swift	Breeds on cliffs, often at waterfalls	Spring–fall	Fed ESA: none CA: S2, SC (nesting) MSHCP: none	Nesting: minimal Winter/Migration: low
Setophaga petechia (Dendroica petechia) Yellow warbler	Breeds in willow and cottonwood riparian habitat, near sea level to 9000 ft. elev.; much of N Amer.; sensitive in S Calif. due to habitat loss & cowbird parasitism; winters Mexico to S Amer.	Spring–summer	Fed ESA: none CA: SC S3S4 (nesting) MSHCP: covered	Nesting: minimal Winter/Migration: high
Empidonax traillii Willow flycatcher (incl. subspecies *extimus,* southwestern willow flycatcher)	Breeds in dense riparian forests & shrublands; scattered locations in Arizona, California, and North Baja; near sea level to about 8000 ft. elevation; winters in Central America. Reported in nearby Whitewater River corridor during migratory and marginal breeding season (breeding status unknown).	Spring–Fall	Fed ESA: **END** (ssp *extimus* only) CA: **END,** S1S2 MSHCP: covered	Nesting: Minimal; no suitable habitat on or adjacent to the site; Migration: Potential flyover or stopover
Eremophila alpestris actia California horned lark	Open, flat lands incl. sparse sagebrush or grassland, meadows, alkali flats; wide elev. range; breeds in western Calif (San Diego Co through Humboldt Co) and Baja Calif; winters in same range	Summer	Fed ESA: none CA: S4 MSHCP: none	Present: several individuals observed during the survey
Falco columbarius Merlin	Uncommon wintering species in S Calif. desert and valleys (breeds in northern N America and Eurasia)	Winter	Fed ESA: none CA: S3S4 (winter) MSHCP: none	Nesting: minimal Winter/Migration: high
Falco mexicanus Prairie falcon	Nests on high cliffs, forages primarily over open lands; throughout arid western US and Mexico	Year-around	Fed ESA: none CA: S4 (nesting) MSHCP: none	Nesting: minimal Year-around foraging and flyover: high

Table 3. Special-status Species of the Cabazon/Whitewater Area.

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
Falco peregrinus American peregrine falcon	Nests on high cliffs, generally near water bodies; feed on birds (esp. shorebirds & waterfowl); widespread but rare worldwide	Spring–Summer	Fed ESA: delisted Calif: FP, S3S4 (nesting) MSHCP: none	Nesting: minimal Winter/Migration: high
Haliaeetus leucocephalus Bald eagle	Breed in large trees, usually near major rivers or lakes; winters more widely; scattered distribution in N America; esp. coastal regions	Winter	Fed: Eagle Protection Act CA: END, S3, FP (nesting and wintering) MSHCP: none	Nesting: minimal Winter/Migration: high
Lanius ludovicianus Loggerhead shrike	Woodlands, shrublands, open areas with scattered perch sites; not dense forest; widespread in N America; valley floors to about 7000 ft. elev.	Year-around	Fed ESA: none CA: S4, SC (nesting) MSHCP: none	Present. Suitable habitat throughout area, observed during field surveys.
Pandion haliaetus Osprey	Nests in northern N America and Mexican coastlines near large water bodies, preys primarily on fish; winters in central Calif to S America;	Spring–Fall	Fed ESA: none CA: S4 MSHCP: none	Nesting: minimal Winter/Migration: high
Plegadis chihi White-faced ibis	Freshwater and brackish marsh; breeding range scattered in W N America incl. central & S Calif wetlands; winters in Mexico & to S	Year-around	Fed ESA: none CA: S3S4 (rookery sites) MSHCP: none	Nesting: minimal Winter/Migration: high
Polioptila californica californica Coastal California gnatcatcher	Primarily coastal sage scrub below about 2,000 feet elev.; southwestern California, Ventura County to northern Baja California; inland to San Gorgonio Pass area (e.g., Banning)	Year-around	Fed ESA: **THR** CA: SC, S2 MSHCP: none	Moderate. Margin of range (reported by BLM staff at adjacent Pacific Crest Trail)
Polioptila melanura Black-tailed gnatcatcher	Desert shrublands, gen. nests in shrub thickets along washes; occas. in open scrub (esp. in winter); Calif. deserts, to W Texas, Baja, and central Mexico	Year-around	Fed ESA: none CA: S3S4 MSHCP: none	Nesting: moderate Winter/Migration: high
Spinus lawrencei Lawrence's goldfinch	CA coastal ranges, western Sierra Nevada, desert margins through northern Baja CA; winters in AZ and Sonora. Shrublands and woodlands usually near water.	Year-around	Fed ESA: none CA: S3S4 (nesting) MSHCP: none	Nesting: minimal Winter/Migration: moderate
Toxostoma lecontei LeConte's thrasher	Calif. deserts, SW Central Val. & Owens Val., east to Utah, Arizona; open shrubland, often sandy or alkaline flats	Year-around	Fed ESA: none CA: S3, SC MSHCP: covered	Low; suitable habitat present; not detected during recent surveys; known from the within about 2.5 miles.
Vireo bellii pusillus Least Bell's vireo	Summer resident of southern California in low riparian habitats in vicinity of water or dry river bottoms; found below 2000 ft; nests placed along margins of bushes or on twigs projecting into pathways, usually willow, mesquite, and mulefat.	Spring–Fall	Fed ESA: **END** CA: **END** S2 MSHCP: covered	Nesting: minimal. Modeled habitat in nearby Whitewater River corridor, but no potential habitat on site. Winter/Migration: low (expected only as a flyover)

Table 3. Special-status Species of the Cabazon/Whitewater Area.

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
MAMMALS				
Antrozous pallidus Pallid bat	Rock outcrops of shrublands, mostly below about 6000 ft. elev.; Calif, SW N Amer through interior Oregon and Washington; hibernates in winter	Warm season	Fed ESA: none CA: S3, SC MSHCP: none	Roosting: minimal Foraging: high (not detected)
Chaetodipus fallax pallidus (Perognathus f. pallidus) Pallid San Diego pocket mouse	Open shrublands and sandy areas; deserts and desert-facing foothills, LA Co. south to N Baja Calif.	Spring–Fall (Winter dormant)	Fed ESA: none CA: S3S4, SC MSHCP: none	Low; suitable habitat present; known from the vicinity of the survey area.
Corynorhinus (Plecotus) townsendii Townsend's big-eared bat (incl. "pale," "western," and other subspecies)	Many habitats throughout Calif and W N Amer, scattered populations in E; day roosts in caves, tunnels, mines; feed primarily on moths	Year-around	Fed ESA: none CA: S2, SC MSHCP: none	Roosting: minimal Foraging: high (not detected)
Euderma maculatum Spotted bat	Desert (cool seasons) to pine forest (summer), much of SW N Amer. but very rare; roosts in deep crevices in cliffs, feeds on moths captured over open water	Not known	Fed: none Calif: S3, SC MSHCP: none	Low potential for roosting or foraging on site; potential flyover
Eumops perotis californicus Western mastiff bat	Lowlands (with rare exceptions); cent. and S Calif., S Ariz., NM, SW Tex., N Mexico; roost in deep rock crevices, forage over wide area; recorded in 2016 at nearby wind site	Year-around	Fed: none Calif: S3S4, SC MSHCP: none	Low potential for roosting on site; high potential for foraging in area
Lasiurus blossevillii Western red bat	Shasta Co. to the Mexican border, W of the Sierra Nevada. Winters in lowlands and coastal regions south of SF Bay. Roosts in forests and woodlands. Feeds over grasslands, shrublands, open woodlands and forests, and croplands.	Spring/Fall migration	Fed ESA: none CA: S3, SC MSHCP: none	Roosting: minimal Foraging: high (not detected)
Lasiurus xanthinus (Nycteris ega xanthina) Western (Southern) yellow bat	Mexico and Cent. Amer., to S AZ; Riv., Imperial and San Diego Cos.; riparian and wash habitats; roosts in trees; evidently migrates from Calif. during winter	Spring–Summer?	Fed ESA: none CA: S3, SC MSHCP: covered	Roosting: minimal Foraging: low (not detected)
Macrotus californicus (M. waterhousii) California leaf-nosed bat	Arid lowlands, S Calif., S and W Ariz., Baja Calif. and Sonora, Mexico; roost in mine-shafts, forage over open shrublands	Year-around	Fed: none Calif: S3 MSHCP: none	Low potential for roosting on site; high potential for foraging in area
Myotis evotis Long-eared myotis	Much of the western US, southern Canada and N Baja Calif.; generally forested lands, also shrublands; roosts in broken rock outcrops, crevices, structures, crevices, mines and tunnels; feeds on large insects.	Year-around?	Fed: none Calif: S3 MSHCP: none	Low potential for roosting on site; moderate to high potential for foraging in area
Myotis thysanodes Fringed myotis	Widespread in CA, but generally not in Central Valley and deserts. Wide variety of habitats; sea level to higher mountains. Optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer, about 1300-2200 m (4000-7000 ft).	Year-around?	Fed ESA: none CA: S3 MSHCP: none	Roosting: minimal Foraging: high (not detected)

Table 3. Special-status Species of the Cabazon/Whitewater Area.

Species Name	Habitat Requirements	Flowering or Activity Season	Conservation Status	Potential to Occur
Myotis velifer Cave myotis	S Calif through Arizona to TX and Mexico; generally roosts in caves; feeds over water or riparian vegetation	Spring - Summer	Fed: none Calif: S1, SC MSHCP: none	Minimal potential for roosting on site; moderate potential for flyover to access foraging habitat
Myotis yumanensis Yuma myotis	Widespread in CA, uncommon in deserts, many habitats, sea level to 3300 m (11,000 ft), but uncommon above 2560 m (8000 ft); feeds over open water.	Year-around	Fed ESA: none CA: S4 MSHCP: none	Roosting: minimal Foraging: high (not detected)
Neotoma lepida intermedia San Diego desert woodrat	Coastal scrub with a moderate to dense canopies preferred. Particularly abundant in rock outcrops, rocky cliffs, and slopes. So. California from San Diego to San Luis Obispo Cos.	Year-around	Fed ESA: none CA: S3S4, SC MSHCP: none	High: numerous middens observed during the surveys, unable to confirm occupancy (see text).
Nyctinomops femorosaccus (Tadarida femorosaccus) Pocketed free-tailed bat	Deserts and arid lowlands, SW US, Baja Calif., mainland Mexico; Roost mainly in crevices of high cliffs; forage over water and open shrubland	Year-around	Fed ESA: none CA: S3, SC MSHCP: none	Roosting: minimal Foraging: high (not detected)
Nyctinomops macrotis (Tadarida molossa) Big free-tailed bat	Roosts in crevices of rocky cliffs, scattered localities in W N. Amer. through Cent. Amer.; ranges widely from roost sites; often forages over water	Year-around (?)	Fed ESA: none CA: S3, SC MSHCP: none	Roosting: minimal Foraging: moderate (not detected)
Ovis canadensis nelsoni Nelson's bighorn sheep	Open shrublands and conifer forest, remote mountains; scattered populations in desert mountains and surrounding ranges, incl. Transverse and Peninsular ranges	Year-around	Fed ESA: none CA: S3, FP (selected populations) MSHCP: none	High; not observed during recent surveys but known from within about 0.25 miles.
Vulpes macrotis arsipus Desert kit fox	Arid areas with grasslands, agricultural lands, or scattered shrubby vegetation. Requires open, level areas with loose-textured, sandy loamy soils for digging dens. SW US and northern Mexico.	Year-around	Fed ESA: none CA: FP Furbearer MSHCP: none	Moderate; potentially suitable habitat throughout.
Taxidea taxus American badger	Mountains, deserts, interior valleys where burrowing animals are avail as prey and soil permits digging; through-out cent and W N Amer	Year-around	Fed ESA: none CA: S3, SC MSHCP: none	Present; suitable habitat present; sign observed in 2019 (2 burrows found during survey).

General references (botany): Baldwin et al. 2012; CDFW 2019a, b, CNPS 2019; CCH 2019
General references (wildlife): American Ornithologists Union 1998 (including supplements through 2011); Barbour and Davis 1969; CDFW 2019a; Feldhammer et al. 2003; Gannon 2003; Garrett and Dunn 1981; Grinnell and Miller 1944; Hall 1981; Hatfield et al. 2015; Jennings and Hayes 1994; Pierson and Rainey 1998; Sibley 2000; Stebbins 2003; Wilson and Ruff 1999.

Conservation Status

Federal designations: (federal ESA, USFWS).
END: Federally listed, endangered.
THR: Federally listed, threatened.
Candidate: Sufficient data are available to support federal listing, but not yet listed.
Proposed: Formally proposed for federal status shown.

Federal designations: (federal Bald and Golden Eagle Protection Act, US Fish and Wildlife Service).
Eagle Protection Act: Bald and Golden Eagle Protection Act.
***State designations*:** (CESA, CDFW)

END: State listed, endangered.
THR: State listed, threatened.
RARE: State listed as rare (applied only to certain plants).
Candidate: Sufficient data are available to support state listing, but not yet listed
SC: California species of special concern. Considered vulnerable to extinction due to declining numbers, limited geographic ranges, or ongoing threats.
FP: Fully protected. May not be taken or possessed without permit from CDFW.

CDFW Natural Diversity Data Base Designations: Applied to special-status plants and sensitive plant communities; where correct category is uncertain, CDFW uses two categories or question marks.
S1: Fewer than 6 occurrences or fewer than 1000 individuals or less than 2000 acres.
S1.1: Very threatened
S1.2: Threatened
S1.3: No current threats known
S2: 6-20 occurrences or 1000-3000 individuals or 2000-10,000 acres (decimal suffixes same as above).
S3: 21-100 occurrences or 3000-10,000 individuals or 10,000-50,000 acres (decimal suffixes same as above).
S4: Apparently secure in California; this rank is clearly lower than S3, but factors exist to cause some concern, i.e., there is some threat or somewhat narrow habitat. No threat rank.
S5: Demonstrably secure or ineradicable in California. No threat rank.
SH: All California occurrences historical (i.e., no records in > 20 years).
SX: Presumed extirpated in California.

California Native Plant Society (CNPS) Rare Plant Rank designations. Note: According to CNPS (http://www.cnps.org/cnps/rareplants/ranking.php), plants ranked as CRPR 1A, 1B, and 2 meet definitions as threatened or endangered and are eligible for state listing. That interpretation of the state Endangered Species Act is not in general use.
1A: Plants presumed extinct in California.
1B: Plants rare and endangered in California and throughout their range.
2: Plants rare, threatened or endangered in California but more common elsewhere in their range.
3: Plants about which we need more information; a review list.
4: Plants of limited distribution; a watch list.

California Rare Plant Rank Threat designations:
.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Fairly endangered in California (20-80% occurrences threatened)
.3 Not very endangered in California (<20% of occurrences threatened, or no current threats known)

Definitions of occurrence probability: Estimated occurrence probabilities based literature sources cited earlier and field surveys and habitat analyses reported here.
Present: Observed on the site by qualified biologists.
High: Habitat is a type often utilized by the species and the site is within the known range of the species.
Moderate: Site is within the known range of the species and habitat on the site is a type occasionally used.
Low: Site is within the species' known range, but habitat is rarely used, or the species was not found during focused surveys covering less than 100% of potential habitat or completed in marginal seasons.
Minimal: No suitable habitat on the site; or well outside the species' known elevational or geographic ranges; or a focused survey covering 100% of all suitable habitat, completed during the appropriate season and during a year of appropriate rainfall, did not detect the species.

3.1 Special-status Plants

3.1.1 Listed Threatened or Endangered Plants

This section describes plant species reported from the region that are listed as threatened or endangered under the federal ESA or CESA. One federally listed endangered plant, triple-ribbed milk-vetch, has been reported in Whitewater Canyon, just east of the survey area. Other listed threatened or endangered plant species of the low desert region (e.g., Coachella Valley milk-vetch) grow on wind-blown sands to the east, well outside the survey area and are not addressed in this report. No listed threatened or endangered plant species, species proposed for listing, or candidates for listing have been documented from the survey area.

Coachella Valley milk-vetch: Coachella Valley milk-vetch is an annual or short-lived perennial endemic to the Coachella Valley. It is federally listed as endangered, a BLM sensitive species, and ranked as CRPR 1B.

It is primarily found on loose aeolian (wind transported) or, less-often, in alluvial (water transported) sands, on dunes or flats and along disturbed margins of sandy washes. There is no designated critical habitat for Coachella Valley milk-vetch on the Project site (USFWS 2011a). A patch of CVMSHCP-modeled habitat for Coachella Valley milk-vetch is within the ROW (see Figure 4). The site was examined in the field; no Coachella Valley milk-vetch and no windblown or fluvial sand deposits are present in this area or elsewhere on the site. Vegetation in that location is predominantly brittlebush and creosote bush (Figure 3). The area is not suitable habitat for Coachella Valley milk-vetch or other species requiring windblown sand (including Coachella Valley Jerusalem cricket). Based on the results of these field surveys, Coachella Valley milk-vetch is not expected to occur on the site.

Triple-ribbed milk-vetch: Triple-ribbed milk-vetch is found in arroyos, canyons, and hillsides between about 1,400 and 4,000 feet elevation. It grows in Whitewater Canyon just east of the AM Project site and in nearby canyons, hills, and mountains to the east (Baldwin et al. 2012) including Morongo Canyon and Mission Canyon and one disjunct site some 40 miles south at Agua Alta Canyon (White 2004). It is very rare, and several known locations consist of only a single plant. Prior to 2004, almost all known occurrences consisted of a few scattered plants in alluvial washes or on adjacent slopes. More recently, occurrences consisting of much larger numbers of plants have been documented, all on unusual upland gravelly substrates. One of these is in the Whitewater River watershed at about 3900 ft. elevation (White 2004), one is near Catclaw Flat (Amsberry and Meinke 2007), and there are one or more similar sites in Joshua Tree National Park (LaDoux, pers. comm.). There also is a record of a few small plants near the Super Creek decorative rock quarry, about a mile east of the Project site, growing on parent material that was visually unlike other upland or alluvial occurrences (personal observation). Based on knowledge of its upland occurrences, it now appears that the alluvial wash occurrences originated from seed dispersed downstream from the much larger upland populations higher in the watersheds. Triple-ribbed milk-vetch is covered under the Coachella Valley Multiple Species Habitat Conservation Plan. There is no CVMSHCP-modeled habitat on the site and Aspen did not locate triple-ribbed milk-vetch during our surveys. Habitat suitability is difficult to evaluate (due to occurrences on upland and alluvial sites, with little more characterization of substrate). Potentially suitable habitat is present but and there is a low potential that it may grow in the study area due to negative results of field surveys.

3.1.2 Other Special-Status Plants

In addition to the statutes and policies described above, several public agencies and private entities maintain lists of plants of conservation concern. The CDFW compiles these species including CDFW and CNPS rankings as California Rare Plant Rank (CRPR) 1, 2, 3, or 4 in its compendium of “Special Plants” (CDFW 2019b). These plants are treated here as “special-status species.” One of these, spiny-hair blazing star has a moderate potential to be present. No additional special-status plants have been documented from the AM site or are expected to occur there (Tables 2 and 3).

Spiny-hair blazing star: Spiny-hair blazing star is an erect annual that has a CRPR of 2B.1 (i.e., rare in California but more common elsewhere in its range). It blooms from March through May and is found in Mojavean desert scrub on sandy, gravelly slopes and washes. It was documented in 2013 at three locations along a service road just west of Whitewater, within about 0.2 miles of the survey area. This species was not found during the field surveys, but there is low potential that a small individual may have been overlooked or that a seed could enter the survey area and germinate in the future. The best habitat for this species is along the steep eroded slopes at the southern edge of the survey area.

3.2 Special-status Wildlife

3.2.1 Listed Threatened or Endangered Wildlife

This section includes species listed as threatened or endangered under CESA or ESA or species that are candidates or proposed for listing. Two listed threatened or endangered species, the desert tortoise and Swainson's hawk, are known from the immediate vicinity of the survey area. Other listed species of the region are either limited to riparian and aquatic habitats (e.g., southwestern willow flycatcher, least Bell's vireo and western yellow-billed cuckoo) or aeolian sands (e.g., Coachella Valley fringe-toed lizard). Crotch bumblebee is a candidate for state listing and is addressed below. Note that recent studies indicate that the federally listed southwestern willow flycatchers generally do not migrate over the southern California desert (BLM 2017 and citations therein). However, other willow flycatcher subspecies (state listed but not federally listed) may pass through the area during migration. Identification of subspecies is difficult and may necessitate hearing the calls. Identification of willow flycatcher subspecies seen during migration, including birds found dead, is usually not possible.

Desert Tortoise. The desert tortoise is listed as threatened under CESA, and the Mojave population (i.e., west of the Colorado River) is listed as threatened under the federal ESA. East of the Colorado River, the desert tortoise's range extends into the Arizona deserts, and south through Sonora (Mexico). All wild desert tortoises in California are part of the state and federally listed Mojave population.

The USFWS reviewed desert tortoise biology and population status in the Revised Recovery Plan (USFWS 2011). The following summary is based on that review and literature cited therein. Desert tortoises spend much of their lives in burrows. They enter hibernation during autumn. In late winter or early spring, they emerge from over-wintering burrows and typically remain active or partially active through the fall. Activity decreases in summer, but tortoises often emerge during summer to drink and to take advantage of seasonal food availability during the few weeks following late summer rains. They may become dormant during extended periods of summer heat and dryness. A single tortoise may have a dozen or more burrows within its home range, and different tortoises may use these burrows at different times. Even during their active seasons, they are inactive during much of the day or night, within burrows or at "palettes" (partially sheltered flattened areas, often beneath shrubs or large rocks) or other shaded sites.

The size of desert tortoise home ranges varies with respect to location and resource availability, and may fluctuate over time. Male tortoises' home ranges can be as large as 200 acres, while females' long-term home ranges may be less than half that size. Over its lifetime, a desert tortoise may use more than 1.5 square miles of habitat and may make periodic forays of several miles at a time.

Tortoises are long-lived and grow slowly. They require 13 to 20 years to reach sexual maturity. Their reproductive rates are low, though their reproductive lifespan is long. Mating may occur both during spring and fall. The number of clutches (sets of eggs laid at a single time) and number of eggs that a female desert tortoise produces is dependent on habitat quality, seasonal food and water availability, and the animal's physiological condition. Egg-laying takes place primarily between April and July; the female typically lays 2-14 (average 5-6) eggs, which are buried near the mouth of a burrow or beneath a shrub. The eggs typically hatch 90 to 120 days later, between August and October. Clutch success rates are unknown and nest predation rates are variable, but predation appears to be an important cause of clutch failure.

Desert tortoises at the Mesa Wind site, located to the north of the AM site have been studied extensively. Researchers conducted focused desert tortoise surveys of the Mesa Wind Project in 1997, 1998, 1999, 2000, 2009, and 2010. The number of tortoises encountered increased with each survey (31, 42, 49, 59, 63, and 69 tortoises, respectively) (Lovich et al. 2011). Desert tortoises at the Mesa Wind site constructed

burrows under shrubs (41% of burrows were located under shrubs), but also constructed burrows under anthropogenic features in the landscape (e.g., roads, concrete foundations associated with wind energy turbines and transformers) (Lovich and Daniels 2000). A disproportionate number of desert tortoise burrows were located near roads and concrete foundations as opposed to available undisturbed habitat in the vicinity. These results suggest that wind energy development may be compatible with desert tortoise conservation (Lovich and Daniels 2000).

Focused surveys at the AM site for desert tortoise detected two old burrows and one old piece of scat within the biological survey area, listed in Table 4. No live tortoises were observed during the survey; however, they are known from within about 0.1 miles of the site and have a high potential to be present within the site.

Table 4. Desert Tortoise Observations.

Date	Sign	UTM	Notes
May 30, 2019	potential burrow	11 S 531499 3754971	Class 4 burrow: more than four feet deep.
May 30, 2019	scat	11 S 531512 3756000	Old scat, more than one year old.
July 18, 2019	potential burrow	11 S 531577 3755247	Class 4 burrow: under concrete foundation

A total of 199 concrete foundations were inspected for potential tortoise burrows. One of these had a suitable desert tortoise burrow (shallow Class 4) beneath it. Based on visual inspection the burrow was not occupied by desert tortoise at the time of the survey. The burrow was revisited on March 26, 2020; by that date it had partially collapsed and appeared to be inactive. Visual inspection indicated that, no desert tortoise was present. Attachment 6 includes a list and map of the foundations.

The AM site is not within USFWS designated critical habitat for the desert tortoise (USFWS 1994). Desert tortoise is covered under the CVMSHCP.

Swainson's Hawk. Swainson's hawk is listed as threatened under the CESA. In California, it nests in the San Joaquin Valley, western Antelope Valley, and Owens Valley. It migrates to South America every fall and returns to California every spring. The survey area is well outside of the breeding range but Swainson's hawk may migrate over the site biannually. Swainson's hawks are regularly observed migrating through the San Gorgonio pass and there are several records within about two miles of the survey area (ebird.org, 2019). Swainson's hawks have a high potential to migrate over the survey area and could use the site briefly during migratory stopovers, but otherwise would not be expected. Swainson's hawk is not covered under the CVMSHCP.

Coastal California gnatcatcher. The coastal California gnatcatcher is listed as threatened under the ESA. Its geographic range is primarily coastal southern California from Ventura County, inland to the Santa Clarita area, Banning area, and southward through northwestern Baja California. Its habitat is coastal sage scrub largely composed of California sagebrush, California buckwheat, and other low-growing, drought-deciduous shrubs. The coastal California gnatcatcher, as well as several shrubs that are characteristic of its habitat, reach their inland range margins in the San Gorgonio Pass. In this area, the ranges of Coastal California gnatcatcher and the more common black-tailed gnatcatcher, may overlap. The black-tailed gnatcatcher occurs on the Alta Mesa site and throughout the general area. Coastal California gnatcatcher has been reported by BLM staff along the Pacific Crest Trail, north of the Project site. There is a low possibility that coastal California gnatcatcher may occur on the Project site and, if so, most likely outside

the breeding season during the dispersal phase of its life cycle. Coastal California gnatcatcher is not covered under the CVMSHCP.

Crotch Bumble Bee. Crotch bumble bee is a candidate species for State listing (CDFW, 2019c). It is a widespread secretive species that is known from more than two hundred locations over a broad geographic range (CDFW, 2019a). More than 100 recent observations have been made throughout much of California (iNaturalist.org, 2019). It is typically found in openings in grassland and scrub habitats where it burrows into the ground and lives in colonies. It feeds on native plants including milkweed, pincushion, lupine, phacelia, sage, snapdragon, clarkia, bush poppy, and buckwheat (Hatfield et al., 2015). Many of these food plants are present on or in the vicinity of the survey area and suitable burrowing and foraging habitat is also present. Crotch bumblebee has a moderate potential to be present on the site. Crotch bumblebee is not covered under the CVMSHCP.

3.2.2 Species Protected Under the Federal Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668-668d; BGEPA) prohibits take of bald eagles and golden eagles. The BGEPA defines *take* to include "pursuing, shooting, shooting at, poisoning, wounding, killing, capturing, trapping, collecting, molesting, and disturbing." The USFWS (2007) further defines *disturb* as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

Golden Eagle. Golden eagles are year-round residents throughout most of their range in the western United States. In the southwest, they are more common during winter when eagles that nest in Canada migrate south into the region. They breed from late January through August, mainly during late winter and early spring in the California deserts (Pagel et al. 2010). In the desert, they generally nest in steep, rugged terrain, often on sites with overhanging ledges, cliffs or large trees as cover. Golden eagles are wide-ranging predators, especially outside of the nesting season, when they do not need to return to tend eggs or young at their nests.

Golden eagle foraging habitat consists of open terrain such as grasslands, deserts, savanna, and early successional forest and shrubland habitats throughout the regional foothills, mountains, and deserts. They prey primarily on rabbits and rodents but will also take other mammals, birds, reptiles, and some carrion (Kochert et al. 2002).

The mountains and canyons surrounding the survey area provide suitable golden eagle nesting habitat. The AM site does not have suitable nesting habitat, but the entire site is suitable foraging habitat. There are several documented golden eagle nest locations within a 10-mile radius of the site including locations to the north in the San Bernardino Mountains and to the south, in the San Jacinto Mountains. The nearest recorded nest sites are about 2.5 miles west of the AM site. Golden eagles are regularly observed migrating through the San Gorgonio pass and there are numerous observations within about one mile of the survey area (ebird.org, 2019). Golden eagles have a high potential to occur over the survey area during winter, migration, or nesting seasons.

Bald Eagle. Bald eagles are occasional migrants in southern California during the winter when birds from areas further to the north migrate south. There are a few year-round resident birds, regularly seen near Lake Hemet in Riverside County, and more recently Big Bear Lake in San Bernardino County and Irvine Lake in Orange County. Bald eagles have been observed migrating through the San Gorgonio pass and were observed twice in January of 2019 at the nearby Interstate 10 Whitewater rest area (ebird.org,

2019). Bald eagles have a high potential to migrate over the survey area.

3.2.3 Wildlife Species Fully Protected Under the California Fish and Game Code

Under the state Fish and Game Code, selected fish and wildlife species are designated as fully protected, prohibiting take except under permit for scientific purposes. Most of the designated fully protected species occur well outside the vicinity of the AM site, but several may be found in the vicinity. These are: golden eagle and bald eagle (discussed above, Species Protected under the Bald and Golden Eagle Protection Act), American peregrine falcon, Nelson's bighorn sheep, and desert kit fox.

American Peregrine Falcon. Peregrine falcons were formerly listed under CESA and ESA but have been delisted under both acts. They are fully protected under the state Fish and Game Code. They are found irregularly in the region, generally during migratory and winter seasons. They feed primarily on birds captured during flight. Waterfowl and shorebirds make up a large proportion of their prey, and nest sites are often within foraging range of large water bodies. Peregrine falcons are regularly observed migrating through the San Gorgonio pass and there are numerous observations within about one mile of the survey area (ebird.org, 2019). Peregrine falcons have a high potential to migrate over the AM site. There are no nest sites known in the vicinity.

Nelson's Bighorn Sheep. Nelson's bighorn sheep (or desert bighorn sheep) are known from the Transverse Ranges, California Desert Ranges, Nevada, northern Arizona, and Utah. Its populations in the Peninsular Ranges (the Santa Rosa and San Jacinto Mountains, and southward into Baja California), south of the AM site, are federally listed as a threatened distinct vertebrate population segment. The populations in the San Bernardino Mountains have no CESA or ESA listing status. Nelson's bighorn sheep is fully protected under the state Fish and Game Code. Nelson's bighorn sheep have been observed at the Mesa Wind site immediately north of the AM site and have a high potential to forage on the site.

Desert kit fox. Desert kit fox is protected by the California Code of Regulations (Title 14, CCR: §460) and Fish and Game Commission Section 4000 as a fur-bearing mammal. Title 14 of the California Code of Regulations, Section 460, stipulates that desert kit fox may not be taken at any time. Desert kit fox is a fossorial mammal that occurs in arid open areas, shrub grassland, and desert ecosystems within the Mojave Desert. Desert kit fox typically occurs in association with its prey base, which includes small rodents, primarily kangaroo rats, rabbits, lizards, insects, and in some cases, immature desert tortoises (Zeiner et al. 1990). Burrow complexes that have multiple entrances provide shelter, escape, cover, and reproduction, but desert kit fox may utilize single burrows for temporary shelter. No desert kit fox burrows were found during the survey, but they have a moderate potential to be present within the survey area.

3.2.4 Other Special-Status Wildlife Species

In addition to the listed species described above, several public agencies and private entities maintain lists of wildlife species of conservation concern. The CDFW compiles these in its compendium of "Special Animals" (2018b). These species are treated here as special-status species.

Coast horned lizard. Coast horned lizard is found throughout much of coastal southern California, inland as far as the southern Mojave Desert and to about 6000 feet elevation in the mountains. Coast horned lizards occur in sandy soils in shrubland, grassland, and woodland habitats. They have been extirpated from much of their historic range by land use changes, but they remain fairly common in natural open space areas where their primary prey (native ants) are found. They have been documented from Whitewater Canyon to the east and from the vicinity of Cabazon to the southwest. Desert horned lizard (no special-status) was observed on the site, but coast horned lizard was not. There is suitable habitat

throughout the AM site, and coast horned lizards have a high potential to be present.

Red diamond rattlesnake. Red diamond rattlesnakes live between sea level and about 5000 feet elevation throughout most of Orange County and western Riverside County, south through San Diego and Baja California and inland to the Colorado Desert margins. Their habitats include coastal sage scrub, chaparral, and woodlands through most of their geographic range, and desert scrub at the eastern margins of their range. They are generally found around boulders and rock outcrops (Klauber 1972; Zeiner et al. 1988; Stebbins 2003). There are numerous records of red diamond rattlesnakes from Whitewater Canyon just east of the survey area. Two adult red diamond rattlesnakes were observed during the field surveys (see Figure 5).

Burrowing owl. The burrowing owl is a CDFW Species of Special Concern. As a native bird, it is also protected by the federal Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code (below). It is a small, terrestrial owl of open country. During breeding season, it ranges throughout most of the western US. It occurs year-round in southern California, but may be more numerous during fall and winter, when migratory individuals from farther north join the regional resident population. Burrowing owls favor flat, open annual or perennial grassland or gentle slopes and sparse shrub or tree cover. They use the burrows of ground squirrels and other rodents for shelter and nesting. Availability of suitable burrows is an important habitat component. Where ground squirrel burrows are not available, the owls may use alternate burrow sites or man-made features (such as drain pipes, debris piles, or concrete slabs). In the California deserts, burrowing owls generally occur in low numbers in scattered populations, but they can be found in much higher densities near agricultural lands where rodent and insect prey tend to be more abundant (Wilkerson and Siegel 2011). Burrowing owl nesting season, as recognized by CDFW is February 1 through August 31 (CDFW 2012). Burrowing owls are covered under the Coachella Valley Multiple Species Habitat Conservation Plan. The site provides suitable habitat for burrowing owls and a single adult burrowing owl was observed during the field surveys (see Figure 5).

San Diego desert woodrat. The San Diego desert woodrat is a CDFW Species of Special Concern. It is known from coastal and desert scrub and rocky outcrops throughout much of southern California. It frequently builds nests or middens (piles of sticks and debris arranged to form a shelter) in rock outcrops or may occupy larger middens (usually built by a different woodrat species) around the bases of shrubs. In some portions of its range it builds middens primarily at the bases of cactus (*Opuntia* spp.) and yucca (*Yucca* spp.) plants (Feldhamer et al., 2003). It is known from the region and has been trapped near the community of Whitewater (CDFW, 2019a). Habitat throughout the survey area is suitable for San Diego desert woodrat and numerous middens were observed under concrete foundation and among rock outcrops. No live woodrats were observed, and we were unable to confirm whether the woodrats occupying the middens are the common desert subspecies or the special-status coastal subspecies. There is a high potential for San Diego desert woodrat to be present.

Bats. There are ten special-status bats that could occur in the AM vicinity and six of these are ranked as CDFW Species of Special Concern (Table 3). However, none of these is expected to roost on the site and therefore the likelihood of sensitive bat species roosting on-site is low. The special-status bats of the local area roost in rock crevices, tunnels, or caves and one species (western yellow bat) roosts in the foliage of riparian trees. None of these features is present on the site. Roost sites may be used seasonally (e.g., inactive cool seasons) or daily (day roosts, used during inactive daylight hours). Maternity roosts are particularly important overall for bat life histories. Knowledge of bat distributions and occurrences is sparse. Bat life histories vary widely. Some species hibernate during winter or migrate south. During the breeding season, bats generally roost during the day, either alone or in communal roost sites, depending on species. All special-status regional bats are insectivorous, catching their prey either on the wing or on

the ground. Some species feed mainly over open water where insect production is especially high, but others forage over open shrublands such as those found on the AM site. Several special-status bats are likely to forage over the site or fly over the site en route to foraging habitat elsewhere (Table 3). The USGS Mineral Resources Data System (MRDS 2019) reports several mines in the project vicinity including unnamed gravel pits, the Super Creek Quarry, and the Painted Hills Quarry. All of these are open pits or quarries, rather than subterranean mines. MRDS also reports gold claims or prospects in the vicinity but does not indicate active or abandoned mines at the claim sites. There is a vertical excavation about 4 feet wide and 10-15 feet deep off-site to the north and a horizontal excavation off-site about 1 mile northeast. We are not aware of any caves or subterranean mines on the site or in the vicinity.

Raptors. In addition to the raptors discussed above, several other special-status birds of prey are found seasonally in the region, especially during winter and during migration. These include osprey, ferruginous hawk, Cooper's hawk, sharp-shinned hawk, northern harrier, prairie falcon, merlin, and long-eared owl (Table 3). None of these raptors are expected to nest on the site due to lack of suitable habitat, but all of them are expected to fly over the site and occasionally forage on the site. Suitable winter or migratory season foraging habitat for all of these raptors is widely available throughout the region.

Upland Perching Birds. Several upland perching bird species are included in the CDFW Special Animals compilation (CDFW, 2018b). These include Costa's hummingbird, loggerhead shrike, LeConte's thrasher, black-tailed gnatcatcher, California horned lark, southern California rufous-crowned sparrow, and Lawrence's goldfinch. Costa's hummingbird, loggerhead shrike, and California horned lark were all observed on the site during the field surveys. The remaining species are likely to occur on the site (based on their habitat and geographic range).

Other Mammals. Several mammal species range widely through desert habitats, either among partially isolated mountain ranges (e.g., Nelson's bighorn sheep, described above) or more often in valleys. These include American badger and desert kit fox. Desert kit fox is addressed above. American badger is a California species of special concern. Two potential American badger burrows were observed within the survey area during 2019 (Figure 5).

3.3 Native Birds: Migratory Bird Treaty Act / California Fish and Game Code

The federal Migratory Bird Treaty Act (MBTA) prohibits take of any migratory bird, including eggs or active nests, except as permitted by regulation (e.g., licensed hunting of waterfowl or upland game species). Under the MBTA, "migratory bird" is broadly defined as "any species or family of birds that live, reproduce or migrate within or across international borders at some point during their annual life cycle" and thus applies to most native bird species. California Fish and Game Code Section 3503 prohibits take, possession, or needless destruction of bird nests or eggs; Section 3503.5 prohibits take or possession of birds of prey or their eggs; and Section 3513 prohibits take or possession of any migratory nongame bird. With the exception of a few non-native birds such as European starling, the take of any birds or loss of active bird nests or young is regulated by these statutes. Most of these species have no other special conservation status as defined above.

The entire AM site and surrounding area provides suitable nesting habitat for numerous resident and migratory bird species. Many adult birds would flee from equipment during project construction; however, nestlings and eggs would be vulnerable. If initial site grading or brush removal were to take place during nesting season, then it would likely destroy bird nests, including eggs or nestling birds. For most birds, these impacts can be avoided by scheduling initial clearing and grading outside the nesting season. Or, if initial

clearing and grading are undertaken during nesting season, work may be limited only to areas where no nesting birds are present, as documented by pre-construction nest surveys. One special-status species, the burrowing owl, is unlikely to flee the site during construction, even outside the nesting season, due to its characteristic behavior of taking cover in burrows. Avoidance of burrowing owls during initial clearing and grading necessitates pre-construction surveys for active burrows, and follow-up measures to "passively relocate" the owls if they are present. Passive relocation may require authorization from CDFW.

Some birds will be likely to nest in the AM site during construction, even after initial grading and clearing. Depending on the species, birds may nest on the ground close to equipment; on foundations, structures, or construction trailers; or on idle vehicles or construction equipment left overnight or during a long weekend. The species most likely to nest in the AM site during construction are common ravens, house finches, and mourning doves, all of which are protected by the MBTA and Fish and Game Code. Due to the high probability that birds may nest on site during construction, regular monitoring and nest site management may be necessary throughout the breeding season. Due to documented predation by common ravens on hatchling and juvenile desert tortoises, it is noteworthy that common ravens are seen regularly throughout the vicinity.

3.4 Wildlife Corridor and Movement

3.4.1 Bird Migration in the San Gorgonio Pass

The San Gorgonio Pass is a high-use nocturnal flyway for migratory songbirds. McCrary et al. (1983) estimated 32 million birds flew through the Coachella Valley during spring of 1982, and recorded rates of 5,000–10,000 birds per hour through the Valley. A large proportion of these migratory birds would have migrated through the San Gorgonio Pass, at the northwest margin of the Coachella Valley. Most of these migratory birds flew higher than the existing or proposed turbines, but about 11 percent were at altitudes within the blade-swept areas of the proposed turbines. Special-status migratory birds reported in the CNDDB (including Vaux's swift, yellow warbler, white-faced Ibis, and least Bell's vireo) as well as many other common and special-status species may migrate over the site seasonally.

3.4.2 Wildlife Corridor

The ability for wildlife to move freely among populations is important to long-term genetic variation and demography. Fragmentation and isolation of natural habitat may cause loss of native species diversity in fragmented habitats. In the short term, wildlife movement may also be important to individual animals' ability to occupy their home ranges, if their ranges extend across a potential movement barrier. These considerations are especially important for rare, threatened, or endangered species, and wide-ranging species such as large mammals, which exist in low population densities.

The California Essential Habitat Connectivity Project was commissioned by the California Department of Transportation (Caltrans) and CDFW to create a statewide assessment of essential habitat connectivity to be used for conservation and infrastructure planning (Caltrans and CDFW, 2010). One of its goals was to create the Essential Connectivity Map, which depicts large, relatively natural habitat blocks that support native biodiversity (natural landscape blocks) and areas essential for ecological connectivity between them (essential connectivity areas). This map does not reflect the needs of particular species but is based on overall biological connectivity and ecological integrity. A more detailed analysis is required to assess local and regional needs for connectivity and develop linkage designs based on the requirements of individual species.

The Essential Connectivity Map identifies the San Bernardino Mountains and the San Jacinto Mountains,

to the north and south of the AM site as natural landscape blocks. There are also essential connectivity areas between these natural landscape blocks that include the AM site.

Additionally, the AM site is located within the Stubbe and Cottonwood Canyons Conservation Area and the Whitewater Canyon Conservation Area as identified in the CVMSHCP (CVAG 2007). These Conservation Areas were identified as an important part of a Linkage and Biological Corridor linking the San Bernardino Mountains portion of the Transverse Ranges with the Peninsular Ranges (San Jacinto and Santa Rosa Mountains). The significance of this corridor is noted in Missing Linkages: Restoring Connectivity to the California Landscape (Penrod, 2001). It is likely to be used by predators and large mammals, including coyotes, bobcats, mountain lions, and foxes to move between the two mountain ranges.

3.5 Vegetation and Habitat

3.5.1 Vegetation

Vegetation descriptions and names are based on alliance level nomenclature of Sawyer et al. (2009). Each vegetation type is also defined according to Holland (1986) and to Mayer and Laudenslayer (1988) whenever possible. None of the vegetation types identified on the AM site are classified as sensitive (CDFW 2018c). Common names of plant species are used throughout the following descriptions; Latin names for each species may be found in Attachment 4 (Species List).

Brittlebush Scrub. This vegetation is characterized by the dominance of brittlebush. It is the most abundant vegetation on site and is found primarily on exposed, west- and south-facing slopes. Many other species were observed within brittlebush scrub, but were present in either low numbers or in small patches. Other species observed included California jointfir, cheesebush, California buckwheat, beavertail cactus, Mojave yucca, and chaparral yucca. Brittlebush is a common to dominant species in desert shrublands and in coastal scrub of the interior valleys west of the project vicinity. On the AM site, brittlebush scrub is similar to descriptions of Riversidean Sage Scrub (Holland 1986), Coastal Scrub (De Becker 1988) and Desert Scrub (Laudenslayer and Boggs 1988).

California Juniper Woodland. This vegetation is characterized by the dominance of California juniper. Within the site it is found on a single north-facing slopes along the northern edge of the site. Additional species observed within juniper woodland include California buckwheat, Mojave yucca, and narrow-leaved goldenbush. This vegetation matches descriptions of Semi-Desert Chaparral and Cismontane Juniper Woodland and Scrub (Holland 1986) and best matches the habitat description for Mixed Chaparral (England 1988).

California Sagebrush–California Buckwheat Scrub. This vegetation is characterized by the co-dominance of California sagebrush and California buckwheat. Within the site it is most common on disturbed soils such as along road cuts and adjacent to graded areas. Additional species, similar to those listed above in brittlebush scrub, are also found in low numbers. This vegetation matches descriptions of Riversidean Sage Scrub and Upper Sonoran Subshrub Scrub (Holland 1986) and best matches the habitat description for Coastal Scrub (De Becker 1988).

Creosote Bush–Brittlebush Scrub. This vegetation is characterized by the co-dominance of creosote bush and brittlebush. It is found throughout much of the site on areas with relatively flat topography. Other species present include white bursage, Mojave yucca, narrow-leaved goldenbush, silver cholla, and California buckwheat. This vegetation best matches the description of Sonoran Creosote Bush Scrub (Holland 1986) and the habitat description of Desert Scrub (Laudenslayer and Boggs 1988).

Developed. The remainder of the survey area is occupied by roads, cleared areas, and building or O&M pads for the existing wind turbines. These areas are primarily unvegetated but there are some ruderal species present, including red brome, red-stemmed filaree, and schismus grass. In addition, there are several native shrubs on and adjacent to the building pads, such as California buckwheat, narrow-leaved goldenbush, and deerweed. These areas do not match published vegetation descriptions.

3.5.2 CVMSHCP Natural Communities

The CVMSHCP names and describes natural communities that are present throughout the plan area. Within the survey site one of these natural communities was mapped. The remainder of the survey area is mapped as wind energy.

Sonoran Mixed Woody and Succulent Scrub: This natural community is characterized by presence of cactus and other stem succulents. It is similar to creosote bush scrub, as described in the CVMSHCP but is more varied and usually has a higher plant density. In addition to creosote bush and other associated perennial shrubs, typical species include silver cholla, pencil cholla, prickly pear, and beavertail cactus.

3.6 CVMSHCP Conservation Areas

The CVMSHCP includes mapped "modeled habitat" for certain covered species. Modeled habitat for the following three species is located within the AM Project Area (see Figure 4):

- Coachella Valley milk-vetch: 4.3 acres (of 41,098 acres of modeled habitat in the MSHCP area; field survey confirms the modeled habitat is not suitable; see Table 3 and text above)
- Coachella Valley Jerusalem cricket: 4.3 acres (of 27,446 acres of modeled habitat in the MSHCP area; field survey confirms the modeled habitat is not suitable; see Table 3)
- Desert tortoise: 645 acres (i.e., the entire Project area; of 587,926 acres of modeled habitat in the MSHCP area)

The CVMSHCP identifies several Conservation Areas within its coverage area. The entire site is within the Stubbe and Cottonwood Canyons Conservation Area and the Whitewater Canyon Conservation Area of the CVMSHCP (Figure 6). Within each Conservation Area, the CVMSHCP specifies acreage caps on various habitat categories such as core habitat for desert tortoise and desert dry wash woodland. The applicant will prepare and submit a status summary of all habitat impacts, by conservation area and category, to support the MSHCP consistency review.

Stubbe and Cottonwood Canyons Conservation Area. The Stubbe and Cottonwood Canyons Conservation Area was established to conserve several covered species, but the primary goal was to conserve the desert tortoise population that is located on the mesas to the west of the Whitewater River. This population of desert tortoise, which has been studied extensively by Dr. Jeff Lovich for many years and is discussed in detail in Section 3.2 (Special-status Wildlife), above, is centered to the north of the AM site. This population of desert tortoise is believed to be the densest population within the CVMSHCP plan area, although very little desert tortoise sign (none of it recent) was observed within the AM site.

In addition to desert tortoise, this Conservation Area contains suitable habitat for several riparian birds including least Bell's vireo, southwestern willow flycatcher, summer tanager, yellow-breasted chat, and yellow warbler. Riparian habitat is absent from the AM site therefore the proposed project would not impact this habitat or directly impact these covered species. Habitat for Coachella Valley milkvetch, Coachella Valley Jerusalem cricket, gray vireo, Le Conte's thrasher, burrowing owl, Coachella Valley round-

tailed ground squirrel, and Palm Springs pocket mouse is also present within the Conservation Area. The site lacks suitable habitat for many of these species with the exception of Le Conte's thrasher and burrowing owl.

To avoid or minimize impacts to the covered species discussed above, the proposed project will implement the Required Avoidance, Minimization, and Mitigation Measures discussed in Section 4.4 of the Final Major Amendment to the CVMSHCP (CVAG, 2016). The proposed project will also implement measures discussed in the Land Use Adjacency Guidelines, Section 4.5 of the Final Major Amendment to the CVMSHCP (CVAG, 2016). These measures will apply to all portions of the project site that are within the Conservation Area.

Whitewater Canyon Conservation Area. The Whitewater Canyon Conservation Area was established to conserve several covered species, but the primary goal was to conserve habitat for the arroyo toad, riparian birds, desert tortoise, and triple-ribbed milkvetch. Since the CVMSHCP was published it was determined that the arroyo toad record from whitewater was incorrectly identified and this species is now considered to be absent from the CVMSHCP area. Desert tortoise habitat and riparian bird habitat are discussed above. A minimal amount of suitable habitat for triple-ribbed milkvetch is present within the AM site but none were observed during the focused survey.

In addition to the covered species discussed above, this Conservation Area contains suitable habitat for Coachella Valley milkvetch, Little San Bernardino Mountains linanthus, Coachella Valley Jerusalem cricket, desert tortoise, gray vireo, Le Conte's thrasher, Coachella Valley round-tailed ground squirrel, southern yellow bat, and Palm Springs pocket mouse. Habitat for these species, with the exception of desert tortoise and Le Conte's thrasher is absent from the site.

4.0 References

American Ornithologists' Union. 1998. Check-list of the North American Birds, 7th ed. Committee on Classification and Nomenclature, American Ornithologists' Union, Washington DC.

Amsberry, K. and R.J. Meinke. 2007. Status evaluation of *Astragalus tricarinatus* (triple-ribbed milkvetch). Report prepared by the Oregon Department of Agriculture, Native Plant Conservation Program for the California Department of Fish and Game.

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken, eds. 2012. The Jepson Manual: Vascular Plants of California, 2nd ed. University Press, Berkeley, California.

Barbour, R.W. and W.H. Davis. 1969. Bats of America. University Press of Kentucky, Lexington, Kentucky.

BLM (Bureau of Land Management). 2017. Amendment to Section 7 formal consultation request and biological assessment for the Eagle Mountain Pumped Storage Hydroelectric Project. Memorandum from California Desert District, Moreno Valley, CA to USFWS Palm Springs Fish and Wildlife Office, Palm Springs, CA (8 Sep).

CDFG (California Department of Fish and Game). 2012. Staff Report on Burrowing Owl Mitigation. March 7. Online: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843&inline

CDFW (California Department of Fish and Wildlife). 2019a. California Natural Diversity Database (CNDDB), Rarefind, Version 3.1.1. Heritage section, CDFW, Sacramento.

_____. 2019b. Special Vascular Plants, Bryophytes, and Lichens List. CDFW, Sacramento. Online: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline

_____. 2019c. Evaluation of the Petition from the Xerces Society, Defenders of Wildlife, and The Center

For Food Safety To List Four Species Of Bumble Bees As Endangered Under The California Endangered Species Act (April 4).

_____. 2018a. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. Unpublished. California Department of Fish and Wildlife, Sacramento, California.

_____. 2018b. Special animals list. CDFW, Sacramento. Online: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline

_____. 2018c. California Natural Community List. [online]: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline (accessed August 2019).

California Department of Transportation (CalTrans) and California Department of Fish and Wildlife (CDFW). 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Online: http://www.dfg.ca.gov/habcon/connectivity/

CNPS (California Native Plant Society). 2019. Inventory of rare and endangered plants. California Native Plant Society. Sacramento. Online: http://www.cnps.org/inventory. Accessed August 2019.

CVAG (Coachella Valley Association of Governments). 2007. Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). Online: http://www.cvmshcp.org/

_____. 2016. Final Major Amendment to the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). Online: http://www.cvmshcp.org/

CVCC (Coachella Valley Conservation Commission). 2014. December 2014 Biological Monitoring Protocol for Stenopelmatus cahuilaensis, Coachella Valley Jerusalem Cricket. University of California Riverside Center for Conservation Biology and CVCC Biological Working Group. http://www.cvmshcp.org/pdf%20files/BWG_Materials/2014-2015%20CVJC%20Protocol%20final.pdf

CCH (Consortium of California Herbaria). 2019. Botanical specimen data provided by the participants of the Consortium of California Herbaria. Online: http://ucjeps.berkeley.edu/consortium/

De Becker, S. 1988. Coastal scrub. Pages 108-109 in K.E. Mayer & W.F. Laudenslayer, eds., A guide to wildlife habitats of California. California Dept. of Forestry and Fire Protection, Sacramento CA.

eBird.org. 2019. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. [Online]: http://www.ebird.org. Accessed: August 2019.

England, A.S. 1988. Mixed chaparral. Pages 104-105 in K.E. Mayer & W.F. Laudenslayer, eds., A guide to wildlife habitats of California. California Dept. of Forestry and Fire Protection, Sacramento CA.

Ervin, E.E., K.R. Beaman, and R.N. Fischer. 2013. Correction of Locality Records for the Endangered Arroyo Toad (*Anaxyrus californicus*) from the Desert Region of Southern California. Bulletin of the Southern California Academy of Sciences 112: 197-205.

Feldhamer, G.A., B.C. Thompson, and J.A. Chapman, eds. 2003. Wild Mammals of North America: Biology, Management and Conservation, 2nd ed. Johns Hopkins University Press, Baltimore MD.

Gannon, W.L. 2003. Bats (Vespertilionidae, Molossidae, Phyllostomidae). Pages 56-74 in Feldhamer, G.A., B.C. Thompson, and J.A. Chapman, eds. Wild Mammals of North America: Biology, Management and Conservation, 2nd ed. Johns Hopkins University Press, Baltimore MD. 1216 pp.

Garrett, K. and J. Dunn. 1981. Birds of Southern California: Status and Distribution. Los Angeles Audubon Society, Los Angeles, California.

Grinnell, J. and A.H. Miller. 1944. The Distribution of the Birds of California. Cooper Ornithological Club, Berkeley (reprint 1986 by Artemisia Press, Lee Vining, CA).

Hall, E.R. 1981. The Mammals of North America. John Wiley and Sons, New York.

Hatfield, R., Jepsen, S., Thorp, R., Richardson, L. & Colla, S. 2015. Bombus crotchii. The IUCN Red List of Threatened Species 2015: e. T44937582A46440211. http://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T44937582A46440211.en. Accessed August 2019.

Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. Unpublished report, Non-game Heritage Program, California Department of Fish and Game, Sacramento. 156 pp.

iNaturalist.org. 2019. Observations of Crotch's bumble bee (Bombus crotchii). [online]: https://www.inaturalist.org/observations?place_id=any&taxon_id=271451 Accessed August 2019.

Jennings, M.R. and M.P. Hayes. 1994. Amphibian and reptile species of special concern in California. California Dept. of Fish and Game, Sacramento.

Jepson (Jepson Flora Project). 2019. Jepson eFlora. [Online]: http://ucjeps.berkeley.edu/IJM.html Accessed August 2019.

Jericho Systems, Inc. 2018. Biological Resources Assessment, Focused Burrowing Owl Survey, Desert Tortoise Protocol Survey, Jurisdictional Delineation, and CVMSHCP Consistency Analysis for the Alta Mesa 640 Windfarm, Whitewater, Riverside County, California.

Klauber, L.M. 1972. Rattlesnakes: Their Habits, Life Histories, and Influence on Mankind. 2nd ed. Univ. California Press, Berkeley. 1533 pp.

Kochert, M. N., K. Steenhof, C. L. Mcintyre and E. H. Craig. 2002. Golden Eagle (*Aquila chrysaetos*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology. Online: http://bna.birds.cornell.edu/bna/species/684doi:10.2173/bna.684

LaDoux, T. Botanist, Joshua Tree National Park. 2008. Personal communication with Scott D. White reg. *Astragalus tricarinatus*.

Laudenslayer, W.F., Jr. and J.R. Boggs. 1988. Desert scrub. Pages 114-115 in K.E. Mayer & W.F. Laudenslayer, eds., A guide to wildlife habitats of California. California Dept. of Forestry and Fire Protection, Sacramento, CA.

Lovich, J.E., and R. Daniels,.2000. Environmental Characteristics of Desert Tortoise (*Gopherus agassizii*) Burrow Locations in an Altered Industrial Landscape. Chelonian Conservation and Biology Vol. 3 No. 4.

Lovich, J.E., J.R. Ennen, S. Madrak, K. Meyer, C. Loughran, C. Bjurlin, T. Arundel, W. Turner, C. Jones, and G.M. Groenendaal. 2011. Effects of wind energy production on growth, demography, and survivorship of a desert tortoise (*Gopherus agassizii*) population in southern California with comparisons to natural populations. Herpetological Conservation and Biology 6(2):161-174.

Mayer, K.E. and W.F. Laudenslayer Jr. 1988. A Guide to the Wildlife Habitats of California. California Department of Forestry and Fire Protection, Sacramento.

McCrary, M.D., R.L. McKernan, R.E. Landry, W.D. Wagner, and R.W. Schreiber. 1983. Nocturnal Avian Migration Assessment of the San Gorgonio Wind Resource Study Area, Spring 1982. Report prepared for Southern California Edison Company, Rosemead, California.

Pagel, J.E., D.M. Whittington, and G.T. Allen. 2010. Interim golden eagle technical guidance: inventory and monitoring protocols; and other recommendations in support of eagle management and permit issuance. Division of Migratory Bird Management, Arlington Virginia. 26pp.

Penrod, K. 2001. Missing linkages: restoring connectivity to the California landscape. Proceedings of interagency workshop (November 2).

Pierson, E.D. and W.E. Rainey. 1998. California leaf-nosed bat, *Macrotus californicus* Pallid bat, *Antrozous pallidus*, Townsend's big-eared bat, *Corynorhinus townsendii*. Western mastiff bat, *Eumops perotis*, pocketed free-tailed bat *Nyctinomops femorosaccus*, and big free-tailed bat *Nyctinomops macrotis*. Pages 27-41 and 66-76 in Bolster, B.C. (ed.) Terrestrial Mammal Species of Special Concern in California. Draft Final Report prepared by P.V. Brylski, P.W. Collins, E.D. Pierson, W.E. Rainey and T.E. Kucera. Report submitted to California Department of Fish and Game Wildlife Management Division, Nongame Bird and Mammal Conservation Program for Contract No.FG3146WM. http://www.dfg.ca.gov/wildlife/nongame/ssc/1998mssc.html

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evans. 2009. Manual of California Vegetation, 2nd ed. California Native Plant Society, Sacramento, California. 1300 pp.

Sibley, D.A. 2000. Sibley Guide to Birds. A. A. Knopf, New York, NY.

Stebbins, R.C. 2003. Western Reptiles and Amphibians, 3rd ed. Houghton Mifflin Company, Boston Mass.

USFWS (US Fish and Wildlife Service). 2018. Recovery Plan for the southern California distinct population segment of the mountain yellow-legged frog. U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California.

_____. 2011. Revised recovery plan for the Mojave population of the desert tortoise (*Gopherus agassizii*). USFWS, Sacramento, CA. 227 pp.

_____. 2010. Preparing for any action that may occur within the range of the Mojave Desert tortoise (*Gopherus agassizii*), 2010 Field Season. USFWS Desert Tortoise Recovery Office, Reno, NV. 18 pp.

_____. 2009a. Endangered Species Act Formal Consultation on the Proposed Mesa Repowering – Turbine Replacement Project Riverside County, California (CA-660.43). Carlsbad Fish and Wildlife Service Office, Carlsbad, CA.

_____. 2009b. Desert Tortoise (Mojave Population) Field Manual: (*Gopherus agassizii*). Region 8, Sacramento, CA.

_____. 2007. Protection of eagles; definition of ‘‘disturb.’’ Federal Register 72:31132 -31140 (5 Jun).

_____. 1994. Endangered and threatened wildlife and plants; determination of critical habitat for the Mojave population of the desert tortoise. Federal Register 59:5820-5866 (8 Feb).

USGS (US Geological Survey). 2019. Mineral Resources Data System mine data, Riverside County, California. https://mrdata.usgs.gov/mrds/

WRCC (Western Regional Climate Center). 2019. Precipitation data summary for Cabazon, California. https://wrcc.dri.edu/cgi-bin/rawMAIN.pl?caCCAB

White, S.D. 2004. Noteworthy collections: *Astragalus tricarinatus*. Crossosoma 30:23-25.

Wilkerson, R.L. and R.B. Siegel. 2011. Distribution and abundance of western burrowing owls (*Athene cunicularia hypugaea*) in southeastern California. Southwestern Naturalist 56:378-384.

Wilson, D.E. and S. Ruff, eds. 1999. Smithsonian Book of North American Mammals. Smithsonian Institution Press, Washington DC.

Zeiner, D.C., W.F. Laudenslayer Jr., and K.E. Mayer. 1988. California's Wildlife: Volume I. Amphibians and Reptiles. Sacramento, California: California Statewide Wildlife Habitat Relationships System, California Department of Fish and Game.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California, in California Wildlife Habitat Relationships System, California Department of Fish and Wildlife, California Interagency Wildlife Task Group.

Appendix C

Jurisdictional Delineation

ALTA MESA WIND PROJECT
Jurisdictional Waters of the State
Pursuant to California Fish and Game Code Section 1602

Prepared for:

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September 2020

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ALTA MESA WIND PROJECT
Jurisdictional Waters of the State Pursuant to California Fish and Game Code Section 1602

Aspen Environmental Group
September 2020

1.0 Introduction

This report presents the methods and results of a field delineation of California Department of Fish and Wildlife (CDFW) jurisdictional streambeds conducted in 2020 at the proposed Alta Mesa Wind Project site. The Project site is located on privately owned land in unincorporated Riverside County, California (Figure 1). CDFW regulates "bed and banks" of streambeds or lakebeds as well as adjacent riparian vegetation or habitat. In addition to CDFW regulation, the Colorado River Basin Regional Water Quality Control Board (RWQCB) and the U.S. Army Corps of Engineers (USACE) may regulate streambeds on the site, according to differing delineation criteria. RWQCB and USACE jurisdiction on the Project site are addressed in a separate aquatic resources delineation. Throughout this report "Impact Area" refers to all portions of the Project site that may be impacted by vegetation clearing, grading, and other project activities. "Impact Area Buffer" is used to define areas that may be impacted by crushing of vegetation and other temporary impacts. "Project site" refers to both the Impact Area and the Impact Area Buffer.

1.1 Project Description

Alta Mesa 640 LLC (Alta Mesa), a subsidiary of Brookfield Renewable Energy (Brookfield), as owner of the Alta Mesa Wind Project (Alta Mesa Wind), is planning to repower the existing wind project located in Riverside County. Alta Mesa is an existing 27 megawatt (MW) wind project with 159 turbines located on land zoned Wind Energy (W-E). W-E zoning allows the development of wind energy subject to approval of a Commercial WECS application. The existing turbines heights range from 114 to 145 feet.

Alta Mesa proposes to construct the Alta Mesa Wind Project (Project), which would include removal of 159 existing wind turbine generators (WTG) and constructing, operating, maintaining, and decommissioning 8 new WTGs. The Project would produce 27 MW of wind energy. The new facilities would be decommissioned at the end of their useful life. Figure 1 illustrates the project location. Alta Mesa is planning to construct the Project in tandem with the adjacent Mesa wind repowering project that is situated on BLM lands and is currently going through a separate but similar permitting process. Both projects would share a main access road to the two sites. Concurrent repowering of the two projects (as opposed to two separate construction projects) would provide efficiencies and minimize total ground disturbance required for access road widening, traffic, and other temporary impacts on environmental resources (i.e., noise, dust, etc.).

The proposed locations for 8 WTGs are shown in Figure 1 as a portion of the Project site. The Impact Area for the repower Project is approximately 39.9 acres. An Impact Area Buffer was also added around portions of the Impact Area that included an additional 32.4 acres for a total Project site of 72.3 acres. The 32.4 Impact Area Buffer is an area where vegetation removal is not anticipated but there may be some need for drive and crush due to trucks backing up or other unanticipated construction work. Under the decommissioning plan, the legacy turbines and their foundations would be removed and revegetated.

Ground disturbance is associated with turbine siting, fill, and widening access roads. The Project would use existing disturbed access roads.

1.2 Project Location

The Project site is located in unincorporated Riverside County, on private lands approximately 11 miles northwest of the City of Palm Springs. It is west of the Whitewater River and east of Cottonwood Creek, shown on the White Water USGS 7.5-minute topographic quad (USGS, 1955). The nearest proposed new WTG site and nearest existing legacy turbine are both approximately one mile west of the active Whitewater River channel.

2.0 Site Conditions

2.1 Topography and Surrounding Land Uses

Elevation of the Project site ranges from approximately 2,160 feet at the southeastern corner to approximately 2,821 feet in the northwestern portion of the site. The elevation of the access road drops down to 1,560 feet near Cottonwood Creek. Most surrounding lands are natural open space, with the exception of adjacent parcels to the north and west that are also in use for wind energy production (the Mesa Wind Project). Nearby communities include the community of Whitewater accessed from Haugen-Lehmann Way, southwest of the site; the community of Bonnie Bell to the east; and the community of Snow Creek south of Interstate 10.

2.2 Vegetation

Vegetation was mapped throughout the survey area during the 2020 site visits. Polygons were drawn on hard copy aerial images and digitized in ArcGIS once back in the office. The smallest mapping unit was approximately 0.25 acres. Any vegetation map is subject to imprecision for several reasons:

- Vegetation types tend to intergrade on the landscape so that there are no true boundaries in the vegetation itself. In these cases, a mapped boundary represents best professional judgment.
- Vegetation types as they are named and described tend to intergrade; that is, a given stand of real-world vegetation may not fit into any named type in the classification scheme used. Thus, a mapped and labeled polygon is given the best name available in the classification, but this name does not imply that the vegetation unambiguously matches its mapped name.
- Vegetation tends to be patchy. Small patches of one named type are often included within mapped polygons of another type. The size of these patches varies, depending on the minimum mapping units and scale of available aerial imagery.
- Photo interpretation of some types is difficult, such as distinguishing brittlebush scrub from California sagebrush-California buckwheat scrub.

Vegetation mapping units (see Figure 2), descriptions and names are based on alliance level nomenclature in *A Manual of California Vegetation* (Sawyer et al. 2009). Each vegetation type is also defined according to Holland (1986) whenever possible. Common names of plant species are used through out the following descriptions; Latin names for each species may be found in Attachment B (Species List).

- **Brittle Bush Scrub.** This vegetation is characterized by the dominance of brittlebush. It is the most abundant vegetation on site and is found primarily on exposed, west- and south-facing slopes.

Many other species were observed within brittlebush scrub, but were present in either low numbers or in small patches. Other species observed included California jointfir, cheesebush, California buckwheat, beavertail cactus, Mojave yucca, and chaparral yucca. Brittlebush is a common to dominant species in desert shrublands and in coastal scrub of the interior valleys west of the Project vicinity. On the AM site, brittlebush scrub is similar to descriptions of Riversidean Sage Scrub (Holland 1986), Coastal Scrub (De Becker 1988) and Desert Scrub (Laudenslayer and Boggs 1988).

- **California Juniper Woodland.** This vegetation is characterized by the dominance of California juniper. Within the site it is found on a single north-facing slopes along the northern edge of the site. Additional species observed within juniper woodland include California buckwheat, Mojave yucca, and narrow-leaved goldenbush. This vegetation matches descriptions of Semi-Desert Chaparral and Cismontane Juniper Woodland and Scrub (Holland 1986) and best matches the habitat description for Mixed Chaparral (England 1988).

- **California Sagebrush–California Buckwheat Scrub.** This vegetation is characterized by the co-dominance of California sagebrush and California buckwheat. Within the site it is most common on disturbed soils such as along road cuts and adjacent to graded areas. Additional species, similar to those listed above in brittlebush scrub, are also found in low numbers. This vegetation matches descriptions of Riversidean Sage Scrub and Upper Sonoran Subshrub Scrub (Holland 1986) and best matches the habitat description for Coastal Scrub (De Becker 1988).

- **Creosote Bush–Brittlebush Scrub.** This vegetation is characterized by the co-dominance of creosote bush and brittlebush. It is found throughout much of the site on areas with relatively flat topography. Other species present include white bursage, Mojave yucca, narrow-leaved goldenbush, silver cholla, and California buckwheat. This vegetation best matches the description of Sonoran Creosote Bush Scrub (Holland 1986) and the habitat description of Desert Scrub (Laudenslayer and Boggs 1988).

- **Desert willow woodland**. This vegetation is characterized by the dominance of desert willow. It is not found within the limits of the Alta Mesa right-of-way but is found within the Impact Area and Impact Area Buffer along the access road at Cottonwood Creek on private land. Other species observed within this vegetation include California broom-sage, cheesebush, brittlebush, and punctate rabbit-brush. This vegetation best matches the description of Mojave Desert Wash Scrub (Holland 1986).

- **Developed.** The remainder of the survey area is occupied by roads, cleared areas, and building or O&M pads for the existing wind turbines. These areas are primarily unvegetated but there are some ruderal species present, including red brome, red-stemmed filaree, and schismus grass. In addition, there are several native shrubs on and adjacent to the building pads, such as California buckwheat, narrow-leaved goldenbush, and deerweed. These areas do not match published vegetation descriptions.

2.3 Climate

The site is at the western margin of the Colorado Desert and the Coachella Valley. The climate is typical of regional deserts, with extreme daily temperature changes, low annual precipitation, strong seasonal winds, and mostly clear skies. The Colorado Desert experiences more summer precipitation than the northern deserts, and although annual precipitation is low overall, a substantial portion of it falls during August and September, usually as brief and intense thunderstorms. The San Gorgonio Pass area experiences higher winds and higher annual rainfall than most of the Colorado Desert, due to its location

between the San Bernardino and San Jacinto Mountains, at the boundary of the less-arid cismontane region of California.

Average annual rainfall recorded at the Palm Springs weather station, located approximately 10 miles to the southeast, is 4.85 inches (12.32 cm; U.S Climate Data 2020). Seasonal rainfall variability is extremely high in the region. The average annual high temperature is 89 degrees Fahrenheit, and the average daily winter low temperature is 60.3 (U.S Climate Data 2020).

During early 2019, the region experienced several significant storms, the first of which moved through the area on January 15, 2019. The second and more significant storm moved through the region on February 14 and 15, 2019. This larger storm inundated many streambeds throughout the region and caused significant flooding and damage in watersheds such as Mission Creek, Whitewater River, and Chino Canyon. Rainfall during 2018-2019 rainy season was more than 180 percent of average at 9.11 inches, with more than 4.32 inches falling in February alone (23.32 cm; U.S Climate Data 2020). Field work for this delineation was completed after these significant storms, and this higher than average rainfall in the region is expected to have clearly defined low flow channels within the Project site.

2.4 Hydrology, Geomorphology, and Geology

The Project site is located in the San Bernardino Mountain foothills, in the San Gorgonio Pass, between the San Bernardino and San Jacinto Mountains. The San Bernardino Mountains are part of the east-west trending Transverse Ranges of southern California. The mountains are primarily composed of granitic bedrock. Parent material is largely composed of partially or wholly consolidated granitic alluvium, which has been eroded by storm runoff into dissected channels draining mainly toward the south.

The Project site is located within the Salton Sea Transboundary Watershed (USGS Hydrologic Unit 18100200). Runoff from the eastern portion of the Project site drains eastward to the Whitewater River, which is a tributary of the Salton Sea (Figure 3). Runoff from the remainder of the site drains to the south and west into Cottonwood Creek and the San Gorgonio River to the south of Interstate 10 (I-10). Part of the Whitewater River are perennial blueline stream and Cottonwood Creek is an ephemeral blueline stream (USGS Whitewater 7.5-minute topographic quadrangle). Two major fault zones run through the San Gorgonio Pass in close proximity to the Project site. The San Andreas Fault crosses from east to west through the Project site and the San Gorgonio Fault crosses east to west just to the south of the Project site (USGS, 2020). Fissures along these faults can allow upwelling of groundwater which can create surface ponds (sag ponds) and springs. These features were not observed within the Project site but are present in Whitewater Canyon to the east of the Project site.

2.5 Soils

The Project site is located within two soil survey areas. Soils throughout the majority of the Project site are mapped on the Soil Survey Geographic Soil Map (SSURGO) (NRCS 2020a). The northern portion of the Project site is not included in the SSURGO mapping boundaries; therefore U.S. General Soil Map data were used for this portion of the project area (NRCS 2020c). Soils data from this source is presented in Table 1 and shown on Figure 4 for the Impact Area and Impact Area Buffer. The Project Impact Area and Impact Area Buffer are primarily comprised of Chuckawalla cobbly fine sandy loam (CnE), 55 acres total, and Lithic Torripsamments (LR).

All of the mapped soil types are described as well-drained or somewhat excessively drained and are not prone to flooding. In general, the descriptions of soil types within the Project site indicate that hydric soils conditions are not expected. However, several of the mapped soil types may contain hydric soil inclusions:

CdE, LR, and MaD (NRCS 2020a and 2020b; see Table 1). Based on soil textures and topography, any such hydric inclusions would be located on areas where surface or subsurface ground water is regularly present, such as stream channels with seasonal or perennial flow, or in impoundments.

Table 1. Soil Types within the Project Site

Map Unit Symbol	Map Unit Name	Description
CdC	Carsitas gravelly sand, 0 to 9 percent slopes	Excessively-drained; generally about 800 ft. elevation; parent material of gravelly alluvium derived from granite; depth to water table generally more than 80 in; not prone to flooding; gravelly sand (0–60 in).
ChC	Carsitas cobbly sand, 2 to 9 percent slopes	Excessively-drained; generally about 800 ft. elevation; parent material of gravelly alluvium derived from granite; depth to water table generally more than 80 in; not prone to flooding; cobbly sand (0-10 in., gravelly sand (10-60 in.).
CnC	Chuckawalla cobbly fine sandy loam, 2 to 9 percent slopes	Well-drained; generally 400 – 1000 ft elevation; parent material of gravelly alluvium; depth to water table more than 80 in; not prone to flooding; cobbly fine sandy loam (0–12 in), very gravelly fine sandy loam (12–60 in).
CnE	Chuckawalla cobbly fine sandy loam, 9 to 30 percent slopes	Well-drained; generally 400 – 1000 ft elevation; parent material of gravelly alluvium; depth to water table more than 80 in; not prone to flooding; cobbly fine sandy loam (0–12 in), very gravelly fine sandy loam (12–60 in).
GP	Gravel pits and dumps	Sandy and gravelly alluvium; extremely gravelly coarse sand (0-6 in.), extremely gravelly sand (6-60 in.).
LR[1]	Lithic Torripsamments-Rock outcrop complex	Excessively-drained; generally 650 – 9,000 ft elevation; parent material of sandy alluvium derived from sandstone; depth to water table more than 80 in; not prone to flooding; sands overlying bedrock – sand (0–4 in), bedrock (4–14 in); rock outcrop – unweathered bedrock (0–60 in).
MaD[1]	Myoma fine sand, 5 to 15 percent slopes	Somewhat excessively-drained; generally, at 200 – 1,800 ft. elevation; parent material of alluvium; depth to water table generally more than 80 inches; not prone to flooding; fine sand (0 – 18 in), sand (18 – 60 in).
s1053	Springdale-Rock outcrop-Etsel family	*Springdale Series* – Somewhat excessively-drained; terrace treads and risers at 150 – 3,500 ft. elevation; moderately coarse-textured alluvium dominantly from granite; slopes of 0 – 70 percent; gravelly ashy coarse sandy loam (0 – 13 in), very gravelly loamy and coarse sand (13 – 25 in); variegated very cobbly coarse sand (25 – 61 in). *Etsel Series* – Somewhat excessively-drained; mountains at 150 – 3,500 ft. elevation; moderately coarse-textured alluvium dominantly from granite; slopes of 15 – 85 percent; gravelly loam (0 – 3 in), very gravelly loam (3 – 7 in); fractured and hard, slightly weathered, fine grained sandstone and shale (7 in).
BA	Badlands	Excessively-drained; generally, in uplands; parent material of consolidated sandy alluvium; weathered bedrock (0–60 in).
-	Not mapped	Areas in which the soil type was not mapped by surveyors.

3.0 Regulatory Background

California Department of Fish and Wildlife regulates waters of the State under Sections 1600-1617 of the California Fish and Game Code. Section 1602 of the California Fish and Game Code requires notification to CDFW if a project would substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake. If CDFW determines that a proposed project may substantially adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement (LSAA) is required. In practice, CDFW generally holds jurisdiction over the bed and banks of any perennial, intermittent or ephemeral streambed, lakebed, or channel where evidence of flowing or standing water (including channels formed by infrequent storm runoff). Additionally, CDFW takes jurisdiction over riparian vegetation adjacent to the bed and banks. CDFW uses the soils, hydrology, and vegetation criteria to identify wetlands, but may define a wetland based on only one or two of these criteria, depending on

site-specific conditions. There is no requirement for downstream connection, and CDFW holds jurisdiction over wetlands or non-wetland waters that may be isolated from other jurisdictional waters.

4.0 Delineation Methodology

All ephemeral washes and erosional features within the Project site are waters of the State, as defined by CDFW. The field methods described here focused on locations of anticipated or potential impacts (i.e., streambed alterations or dredge or fill activity, according to the relevant regulations). Aspen biologists Justin Wood and Jacob Aragon visited the Project site on March 26, 2020 to conduct the jurisdictional delineation of the Project site. Prior to conducting the 2020 field assessment, Mr. Wood reviewed current and historic aerial photographs, detailed topographic maps, available soils information, and local and state hydric soil list information to evaluate potential jurisdictional features.

All drainages that cross through or originate within the Impact Area and Impact Area Buffer were visited in field and mapped on high-resolution aerial photographs (see Figure 5). GPS points were recorded using a Trimble Juno SB GPS unit where each drainage intersects the Impact Area or Impact Area Buffer. The width of each jurisdictional drainage was recorded, based on the CDFW jurisdictional criteria (i.e., the top of the banks of each channel). For the larger drainages, Mr. Wood walked the centerline of the drainage throughout the Project site. Field maps were digitized using Global Information System (GIS) technology and the total area of jurisdictional features was calculated.

5.0 Results

All CDFW jurisdictional streambeds within the survey area are ephemeral desert washes. No wetlands are present within the survey area. These washes and channels exhibited field indicators of active flow such as water marks, linear deposits of sediment and/or plant debris, bank scour, and erosion. Using a combination of vegetation mapping, bed/bank delineation, and field observations, the Project is expected to result in the impacts to CDFW jurisdictional streambeds as shown in Table 2.

A total of 34 ephemeral desert washes and erosional features were mapped within the Project site, 25 of these are within the Impact Area and 32 of these are within the Impact Area Buffer. The length and acreages of these features are shown below in Table 2 and their locations are shown on Figure 5. These ephemeral desert washes and erosional features appear to meet the definition of CDFW jurisdictional streambeds as outlined in Section 1602 of the California Fish and Game Code and regulated by the CDFW.

Table 2. CDFW Jurisdictional Streambeds within the Project Site

Drainage Number (see Figure 5)[1]	Impact Area		Impact Area Buffer[1]	
	Area (acres)	Length (linear feet)	Area (acres)	Length (linear feet)
1	0.28	51	0.26	41
2	0.03	52	0.02	39
3	--	--	0.10	264
4	--	--	0.01	72
5	0.17	636	0.08	149
6	0.20	185	0.13	101
7	0.16	778	--	--
8	0.41	247	0.20	102
9	0.01	51	0.02	134
10	0.03	234	0.02	112

11	--	--	0.05	329
12	0.01	29	0.06	121
13	0.13	762	0.07	157
14	0.42	1366	0.28	985
15	0.05	57	0.12	315
16	0.07	344	0.07	344
17	0.08	284	0.01	284
18	0.00	8	0.00	7
19	0.01	20	0.00	10
20	--	--	0.01	34
21	--	--	0.01	118
22	--	--	0.00	42
23	--	--	0.00	28
24	0.01	219	0.00	60
25	0.02	73	0.07	108
26	0.44	936	0.04	339
27	0.04	841	--	--
28	0.01	84	0.01	139
29	--	--	0.00	49
30	0.03	224	0.01	49
31	0.01	95	0.01	187
32	0.03	363	0.00	56
33	--	--	0.00	25
34	0.06	762	0.00	45
Total	2.70	8702	1.69	4843

1. Vegetation removal is not anticipated but there may be some need for drive and crush due to trucks backing up or other unanticipated construction work.

The conclusions presented above represent observations made in the field and on Aspen's knowledge and experience with the CDFW, including regulatory guidance documents and manuals. The CDFW will have final authority in determining the status and presence and extent of jurisdictional streambeds.

6.0 References

Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. Unpublished report available from California Department of Fish and Game, Sacramento, California.

NRCS (Natural Resource Conservation Service). 2020a. Web Soil Survey 2.0. http://websoilsurvey.nrcs.usda.gov/. Website accessed July 2020.

_____. 2020b. National Hydric Soil List by State. http://soils.usda.gov/use/hydric/. Website accessed July 2020. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316619.html. Accessed August 2020.

_____. 2020c. U.S. General Soil Map (STATSGO2). http://soils.usda.gov/survey/geography/ssurgo/description_statsgo2.html Accessed July 2020.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, CA. 1300 pp.

U.S. Climate Data, 2020. U.S. Climate Data Website. https://www.usclimatedata.com/climate/palm-springs/california/united-states/usca0828. Accessed July 2020.

USGS (United States Geological Survey). 2020. Interactive Fault Map. https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf Accessed July 2020.

_____. 1955. Whitewater, California 7.5-minute Topographic Quadrangle.

Attachment 1 – Figures

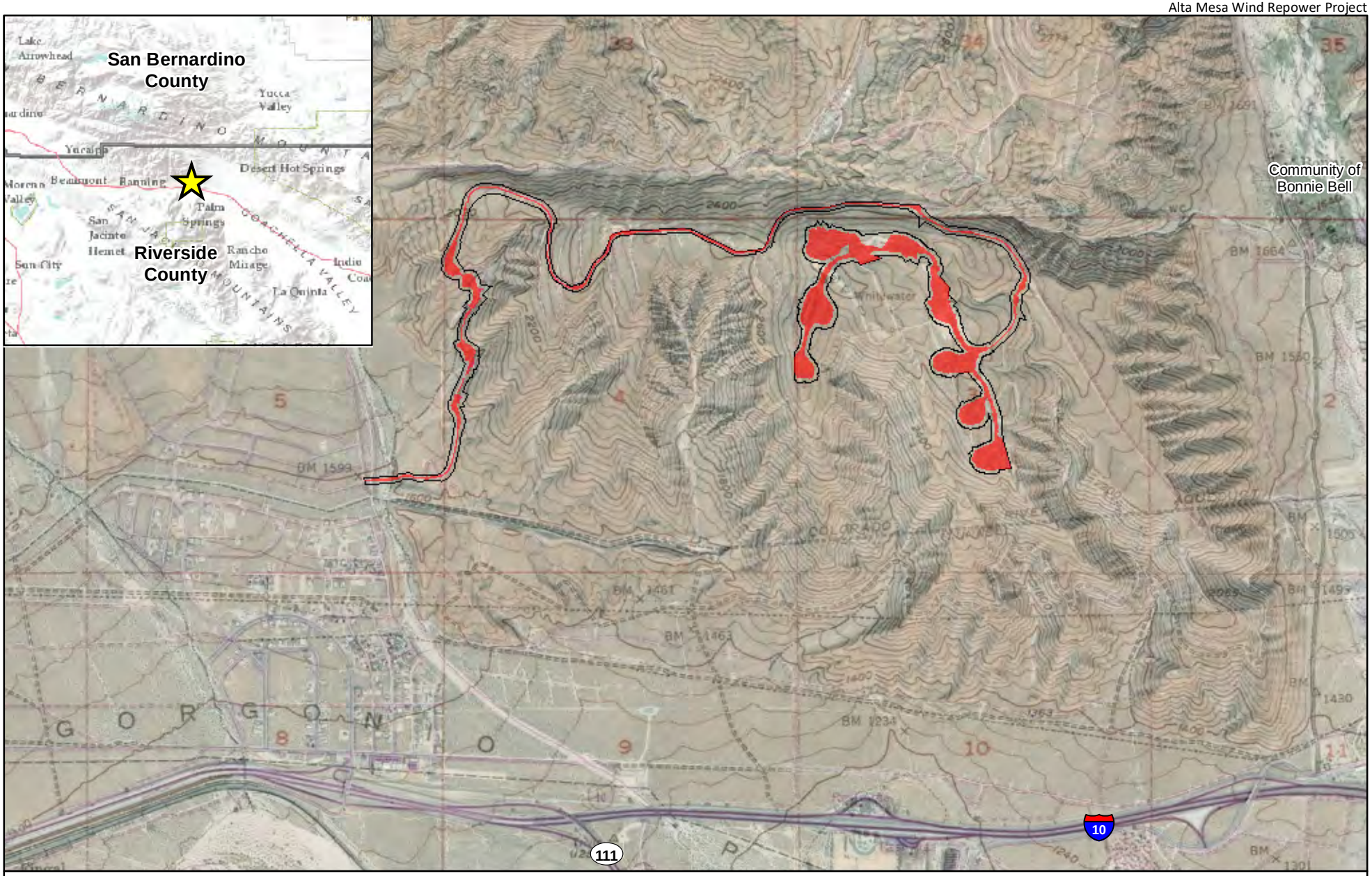
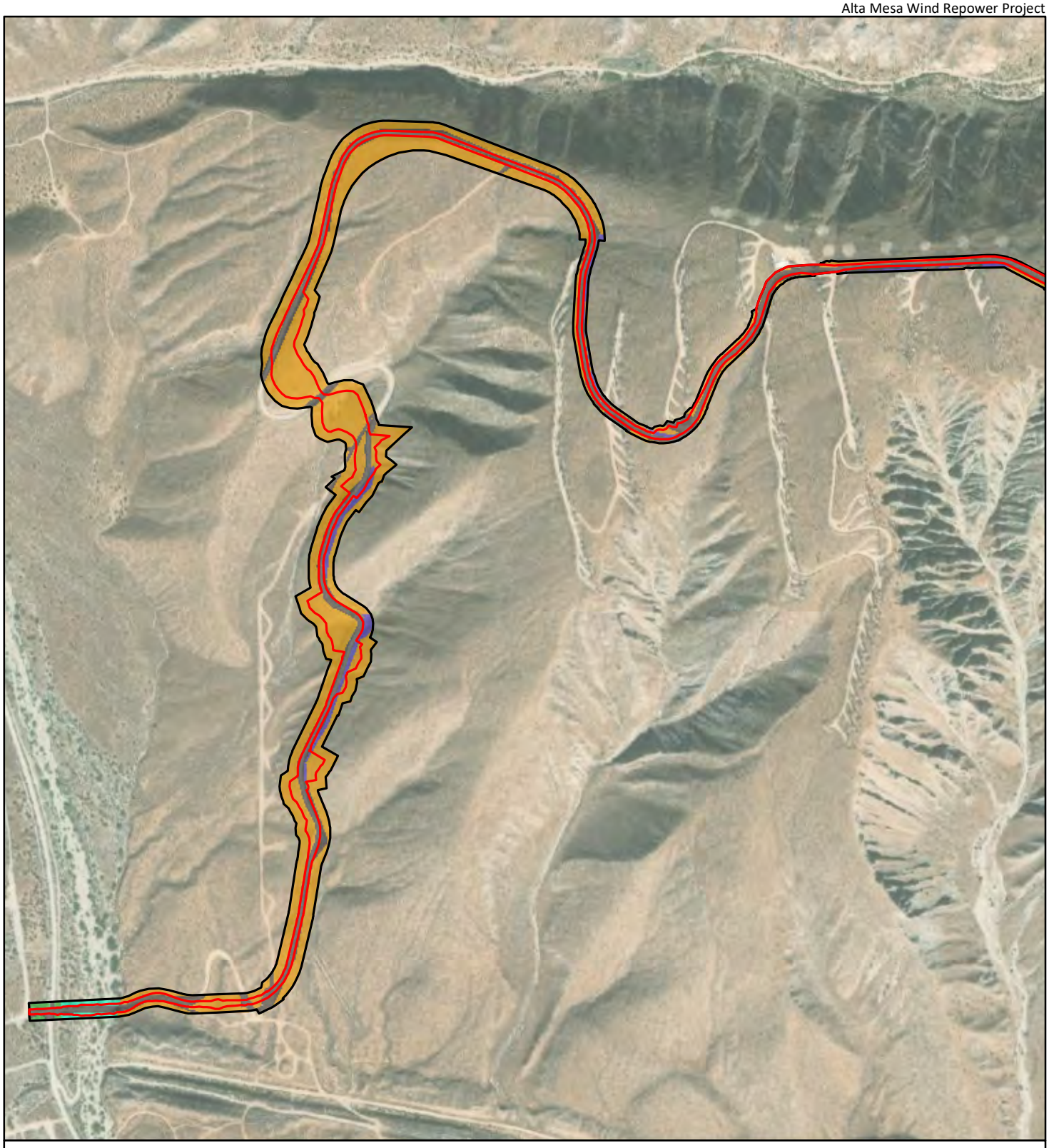


Figure 1.

Project Location



Project Impact Area
Potential Disturbance Buffer

Vegetation and Cover Types

- Brittlebush scrub
- California juniper woodland alliance
- California sagebrush-buckwheat scrub
- Creosote bush-brittle bush scrub
- Desert willow woodland
- Developed, Ruderal or Disturbed

N

0 1,000
Feet

Figure 2A.

Vegetation

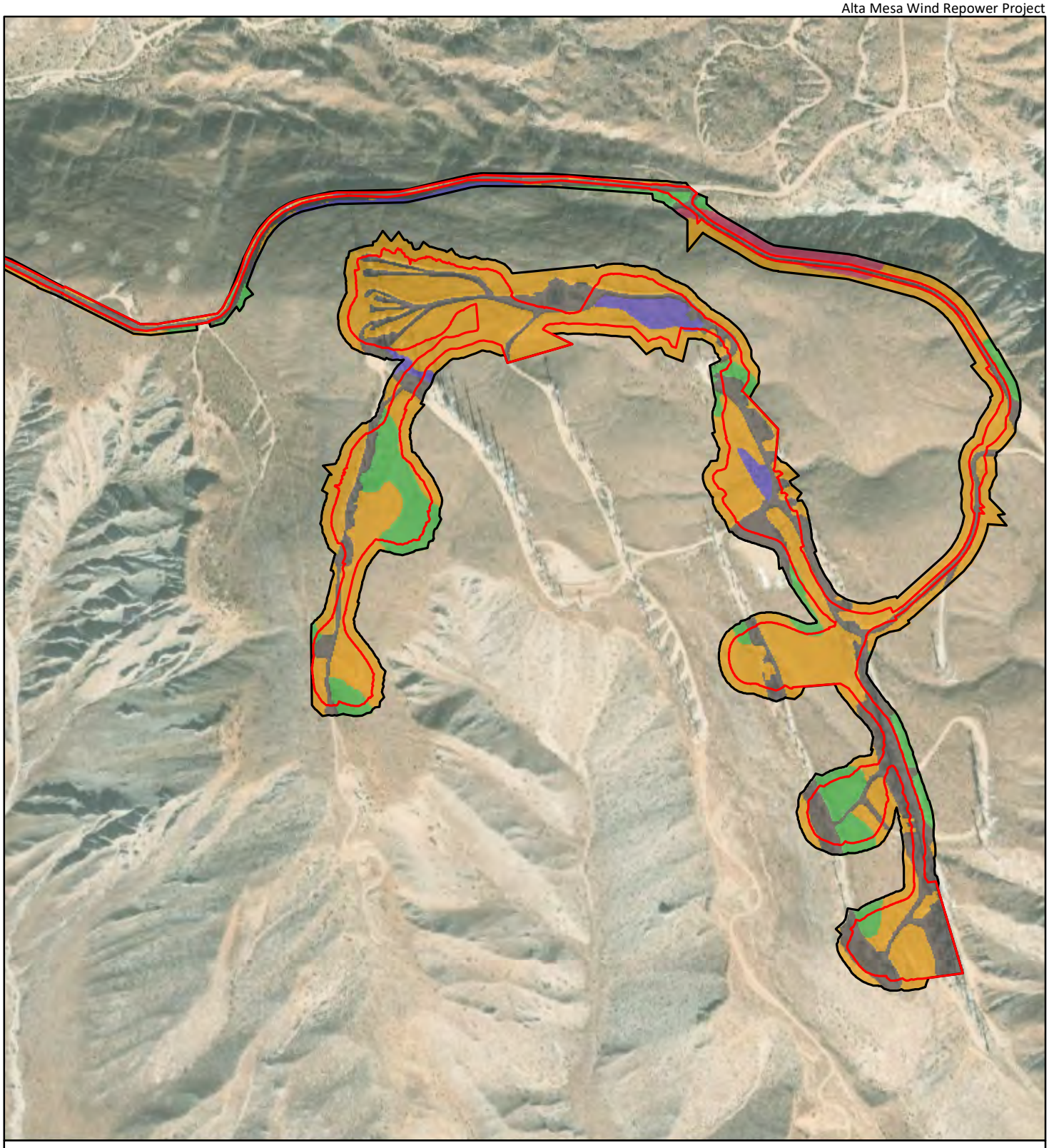


Figure 2B.

Vegetation

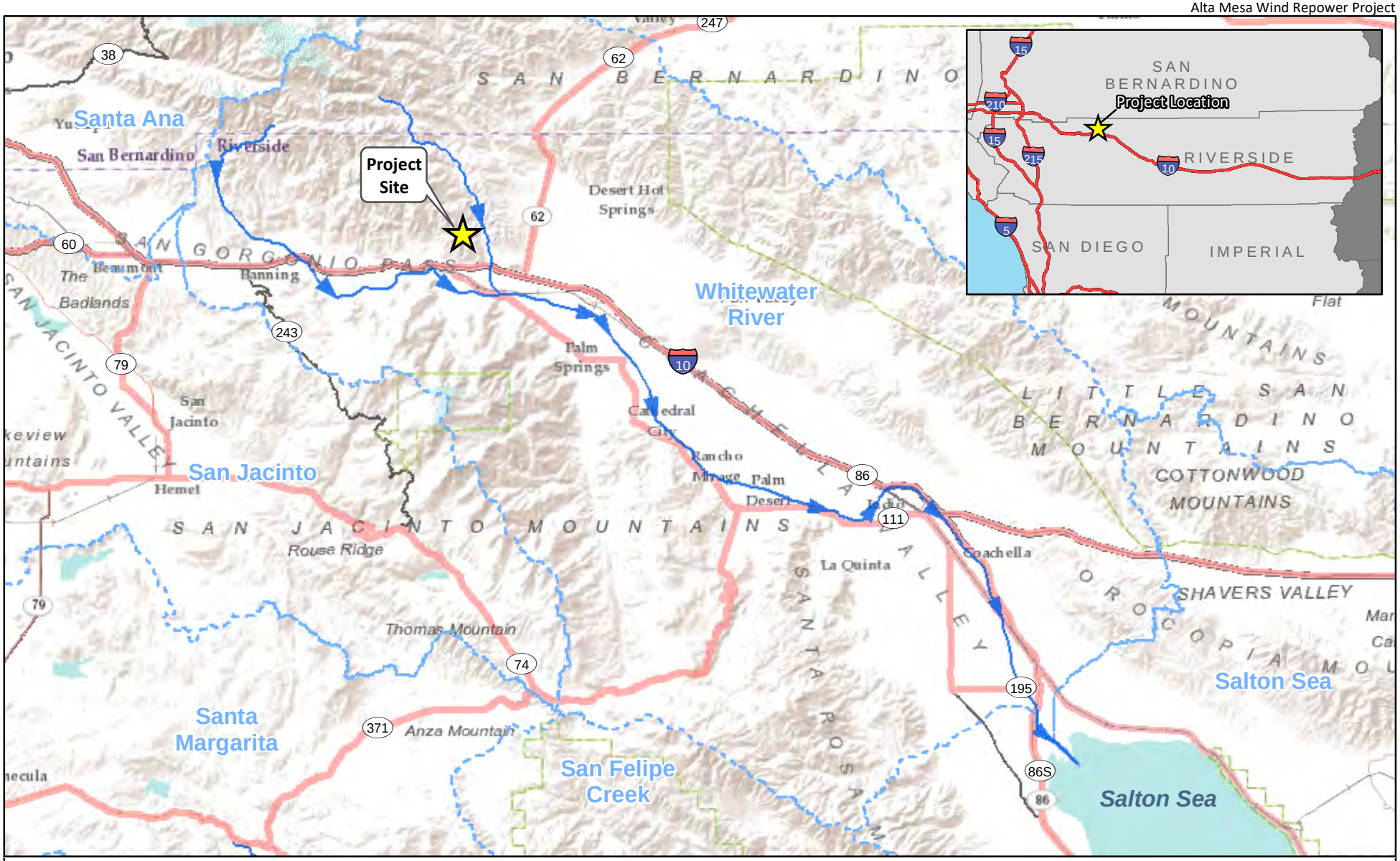
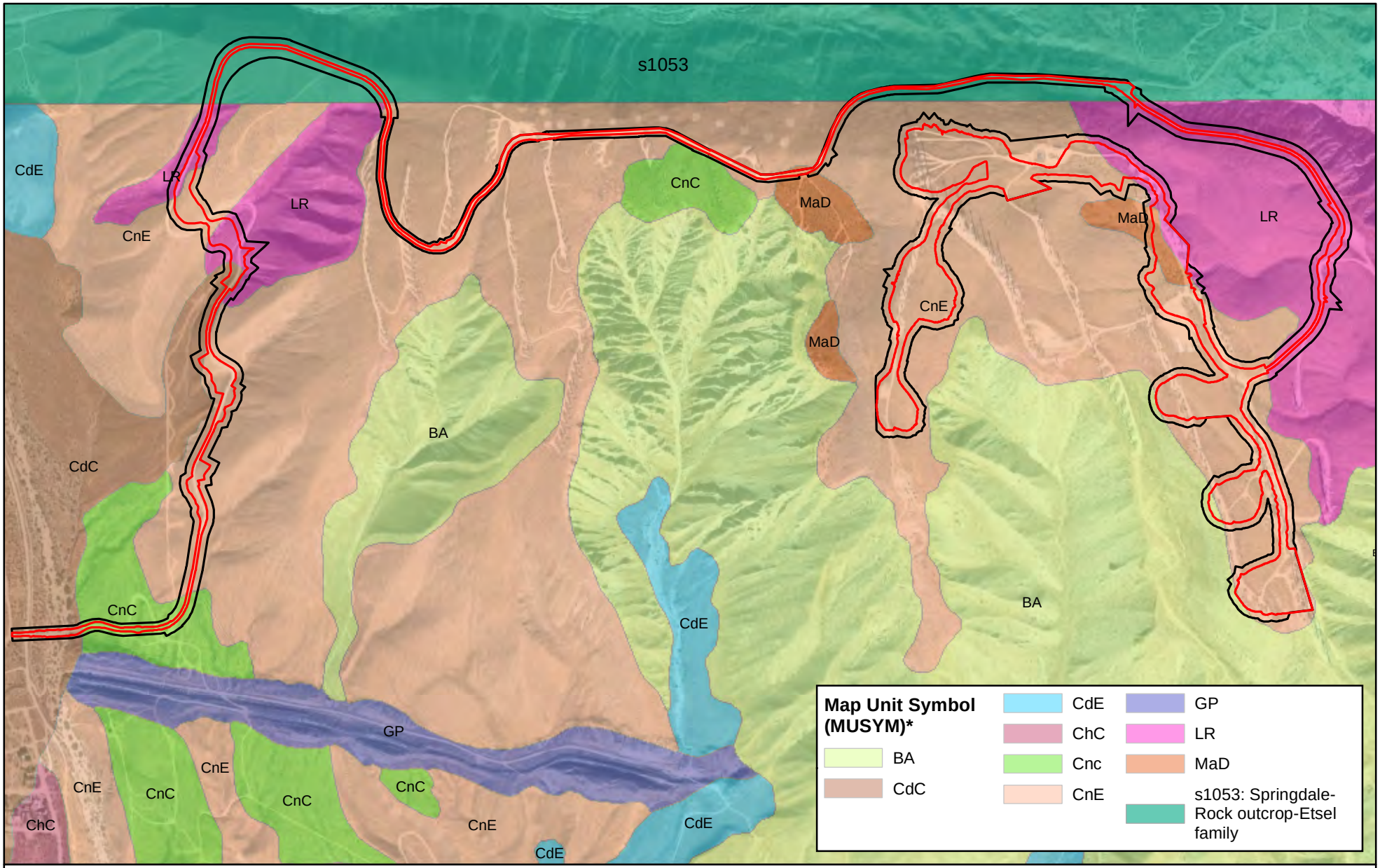


Figure 3.

Project Vicinity and

Major Hydrological Flow Patterns



*Descriptions of each soil type can be found in Table 3.1

N

0 1,000

Feet

Project Impact Area

Potential Disturbance Buffer

Figure 4.

Soils

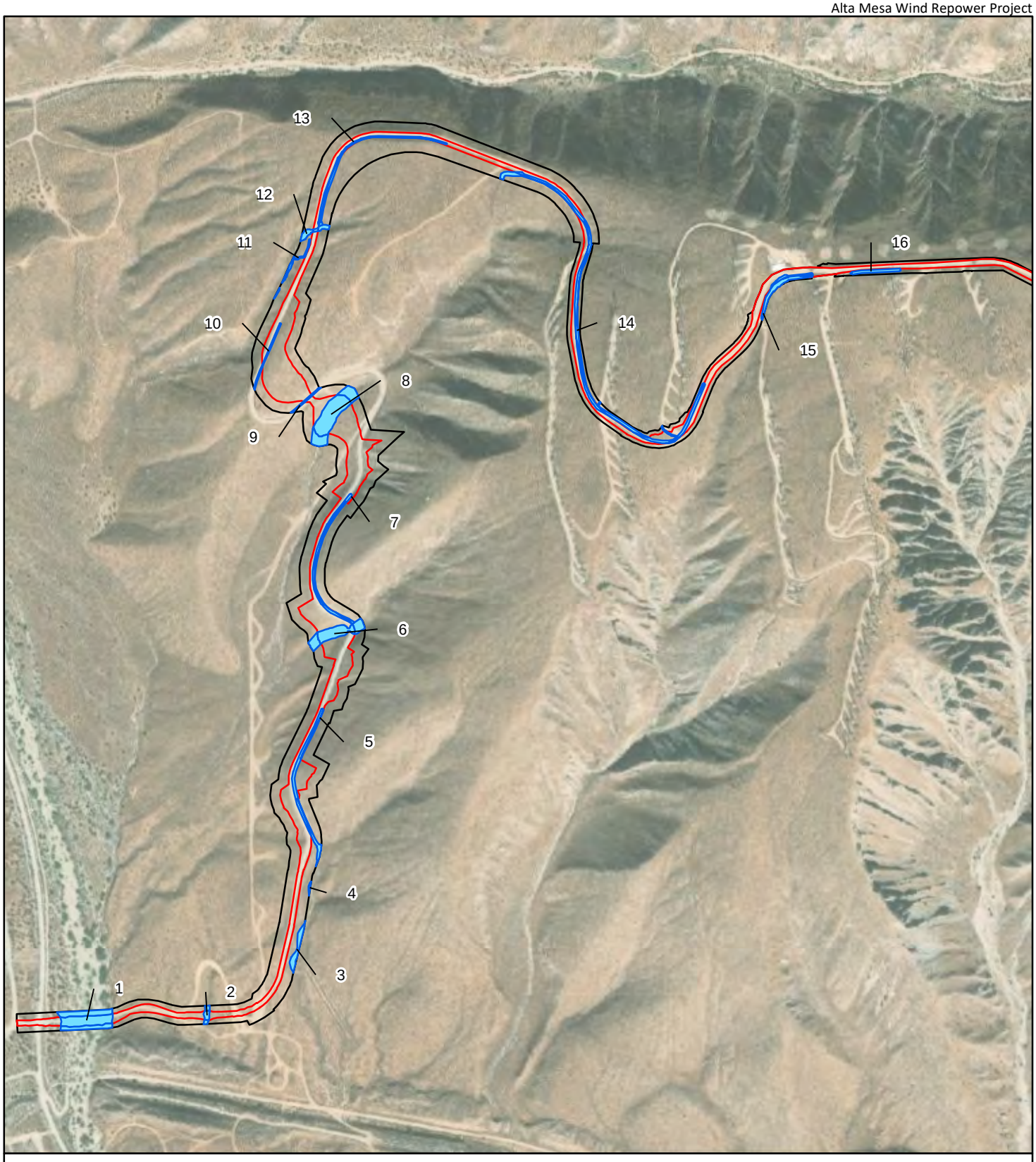
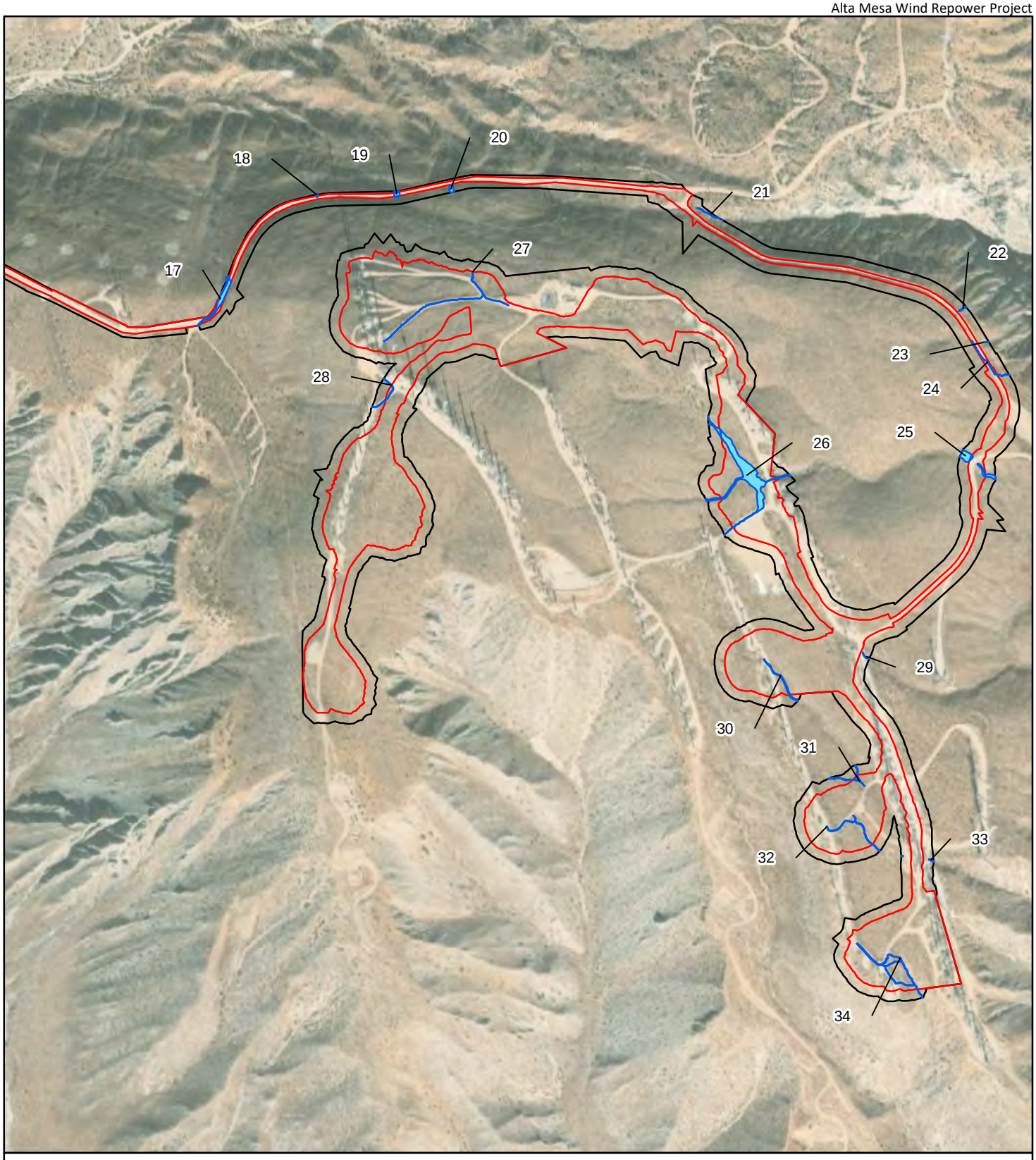


Figure 5A.

Drainages



Project Impact Area
Potential Disturbance Buffer
CDFW Jurisdictional Streambeds

N

0 1,000
Feet

Figure 5B.
Drainages

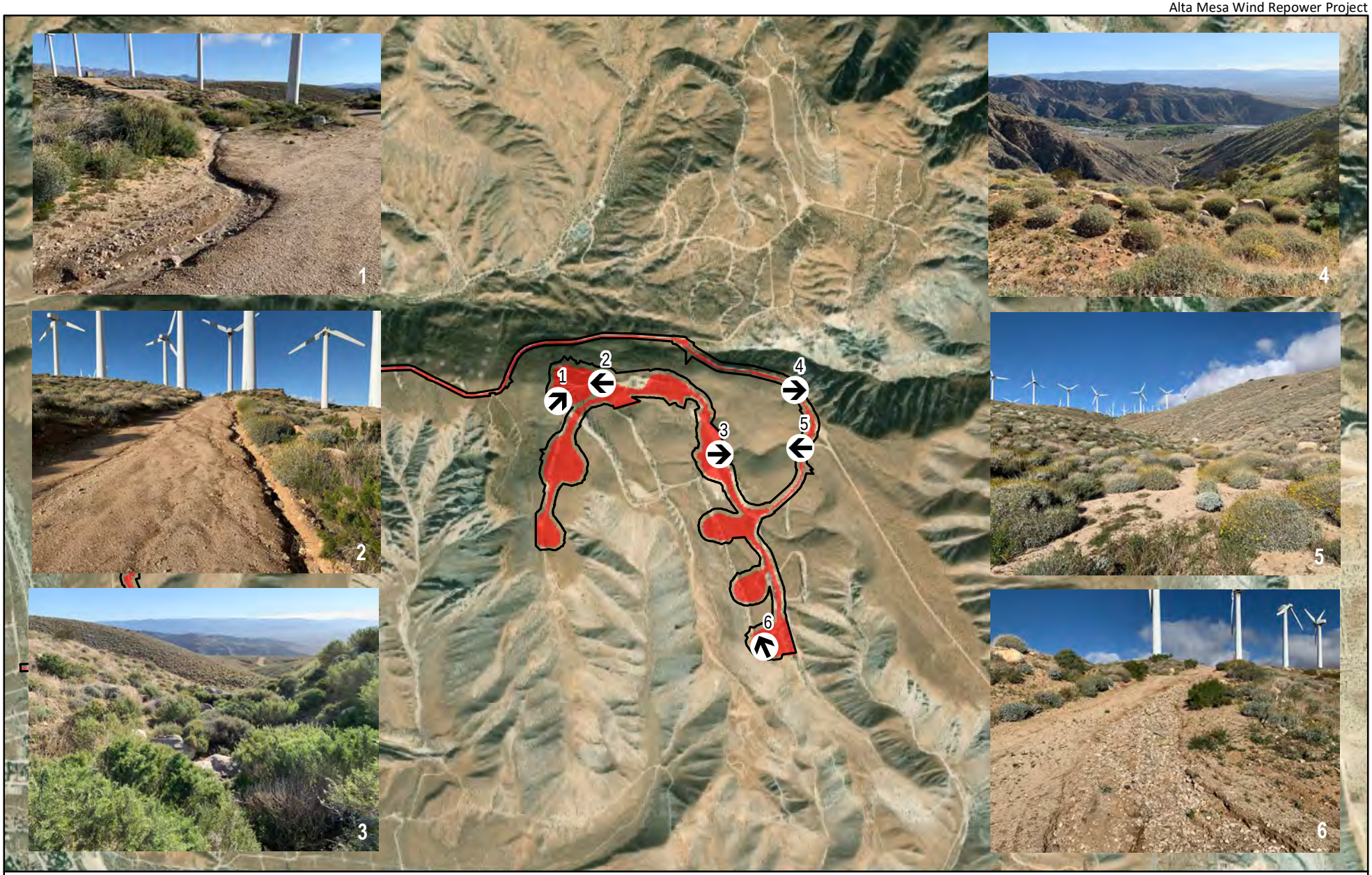


Figure 6.

Photo Exhibit

Attachment 2 – Observed Species List

Latin Name	Common Name
VASCULAR PLANTS	
Dicotyledons	
SELAGINELLACEAE	SPIKE-MOSS FAMILY
Selaginella bigelovii	Bigelow spike moss
CUPRESSACEAE	CYPRESS FAMILY
Juniperus californica	California juniper
EPHEDRACEAE	EPHEDRA FAMILY
Ephedra californica	Desert tea
ANACARDIACEAE	SUMAC or CASHEW FAMILY
Rhus ovata	Sugar bush
ASTERACEAE	ASTER FAMILY
Acamptopappus sphaerocephalus	Rayless goldenhead
Ambrosia acanthicarpa	Annual bur-sage
Ambrosia dumosa	White bur-sage, burrobush
Ambrosia salsola	Common burrobrush, cheesebush
Artemisia californica	California sagebrush
Bahiopsis parishii	Parish's goldeneye
Bebbia juncea var. *aspera*	Sweetbush
Brickellia californica	California brickellbush
Chaenactis fremontii	Fremont pincushion
Corethrogyne filaginifolia	California-aster, sand-aster
Encelia farinosa	Brittlebush
Encelia frutescens	Rayless encelia
Encelia virginensis	Virgin River encelia
Ericameria linearifolia	Interior goldenbush
Ericameria nauseosa	Common rabbitbrush
Ericameria paniculata	Black-banded rabbitbrush, punctate rabbitbrush
Ericameria pinifolia	Pine-bush, pine goldenbush
Eriophyllum wallacei	Wallace's woolly daisy
Geraea canescens	Desert-sunflower
Gutierrezia sarothre	Matchweed
Lasthenia gracilis	Goldfields
Lasthenia californica	California goldfields
Lepidospartum squamatum	California broom-sage
* *Logfia gallica*	Daggerleaf cottonrose
Malacothrix glabrata	Desert dandelion
Rafinesquia neomexicana	Desert chicory
Stephanomeria exigua	Wreath plant
Stephanomeria pauciflora	Wire-lettuce, desert straw
Tetradymia comosa	Hairy horsebrush
Uropappus lindleyi	Silverpuffs
BIGNONIACEAE	CATALPA FAMILY
Chilopsis linearis	Desert willow
BORAGINACEAE	BORAGE OR WATERLEAF FAMILY
Amsinckia intermedia	Large flower rancher's fiddleneck
Amsinckia tessellata	Checker fiddleneck
Cryptantha angustifolia	Narrow-leaved cryptantha
Cryptantha barbigera	Bearded cryptantha
Cryptantha muricata	Prickly cryptantha
Emmenanthe penduliflora	Whispering bells
Eucrypta chrysanthemifolia	Spotted eucrypta

Nemophila menziesii	Baby blue eyes
Pectocarya linearis ssp. *ferocula*	Narrow-toothed pectocarya, comb-bur
Phacelia distans	Common phacelia
Phacelia minor	Wild canterbury bells
BRASSICACEAE	MUSTARD FAMILY
* *Brassica tournefortii*	Sahara mustard, wild turnip
* *Hirschfeldia incana*	Shortpod mustard
Lepidium nitidum	Shining peppergrass
* *Sisymbrium orientale*	Hare's ear cabbage
Streptanthella longirostris	Streptanthella
Tropidocarpum gracile	Slender adobe-pod
CACTACEAE	CACTUS FAMILY
Cylindropuntia echinocarpa	Silver cholla
Cylindropuntia ramosissima	Pencil cholla
Echinocereus engelmannii	Engelmann hedgehog cactus
Opuntia basilaris var. *basilaris*	Beavertail cactus
CHENOPODIACEAE	GOOSEFOOT FAMILY
Atriplex canescens	Four-wing saltbush
Grayia spinosa	Spiny hop-sage
CLEOMACEAE	SPIDERFLOWER FAMILY
Peritoma arborea	Bladderpod
CRASSULACEAE	STONECROP FAMILY
Crassula connata	Pygmy-weed
Dudleya lanceolata	Lance-leaved dudleya
Dudleya saxosa spp. *aloides*	Desert dudleya
CUCURBITACEAE	GOURD FAMILY, CUCUMBER FAMILY
Marah macrocarpa	Chilicothe, wild cucumber
EUPHORBIACEAE	SPURGE FAMILY
Stillingia linearifolia	Linear-leaved stillingia
FABACEAE	LEGUME FAMILY, PEA FAMILY
Acmispon glaber var. *glaber*	Deerweed
Acmispon strigosus	Desert lotus
Lupinus bicolor	Annual lupine
Lupinus concinnus	Bajada lupine
Lupinus sparsiflorus	Coulter's lupine
Psorothamnus emoryi	Emory indigo-bush, dye-weed
Senegalia greggii	Catclaw acacia
GERANIACEAE	GERANIUM FAMILY
* *Erodium cicutarium*	Redstem filaree
LAMIACEAE	MINT FAMILY
Salvia apiana	White sage
Salvia columbariae	Chia
Scutellaria mexicana	Bladder-sage, paper bag bush
LOASACEAE	LOASA FAMILY, STICK-LEAF FAMILY
Mentzelia involucrata	Sand blazing star
MALVACEAE	MALLOW FAMILY
Sphaeralcea ambigua var. *ambigua*	Apricot mallow, desert mallow
MONTIACEAE	MINER'S LETTUCE FAMILY, MONTIA FAMILY
Calyptridium monandrum	Pussypaws, common calyptridium
NYCTAGINACEAE	FOUR O'CLOCK FAMILY
Abronia villosa var. *villosa*	Sand verbena
Mirabilis laevis var. *villosa*	Desert wishbone bush
ONAGRACEAE	EVENING-PRIMROSE FAMILY

Camissonia campestris	Field evening-primrose
Camissoniopsis bistorta	California sun cup
Camissoniopsis pallida	Pale suncup
Eremothera boothii ssp. *condensata*	Booth's evening primrose
Eulobus californica	California false mustard
PAPAVERACEAE	POPPY FAMILY
Eschscholzia parishii	Parish's gold poppy
PLANTAGINACEAE	PLANTAIN FAMILY
Plantago ovata	Desert plantain
POLEMONIACEAE	PHLOX FAMILY
Eriastrum eremicum ssp. *eremicum*	Desert woolly-star
Gilia angelensis	Chaparral gilia, common gilia
Gilia capitata	Blue field gilia
Gilia ochroleuca ssp. *exilis*	Volcanic gilia
Leptosiphon liniflorus	Flax-flowered linanthus
POLYGONACEAE	BUCKWHEAT FAMILY
Chorizanthe brevicornu	Brittle spine flower
Eriogonum elongatum var. *elongatum*	Long-stem wild buckwheat, wand buckwheat
Eriogonum fasciculatum	California buckwheat
Eriogonum inflatum	Desert trumpet
RANUNCULACEAE	BUTTERCUP FAMILY
Delphinium parishii ssp. *parishii*	Parish's larkspur
SOLANACEAE	NIGHTSHADE FAMILY
Lycium andersonii	Anderson box-thorn
ZYGOPHYLLACEAE	CALTROP FAMILY
Larrea tridentata	Creosote bush
Monocotyledons	
AGAVACEAE	CENTURY PLANT FAMILY, AGAVE FAMILY
Hesperoyucca whipplei	Chaparral yucca
Yucca schidigera	Mojave yucca
POACEAE	GRASS FAMILY
* *Avena barbata*	Slender wild oat
* *Bromus berteroanus*	Chilean chess
* *Bromus madritensis* ssp. *rubens*	Red brome
* *Bromus tectorum*	Cheat grass
Festuca microstachys	Small fescue
Festuca octoflora	Sixweeks grass, slender fescue
Hilaria rigida	Big galleta
* *Hordeum murinum*	Wall barley, hare barley
Poa secunda	Nevada blue grass, nodding blue grass
* *Schismus barbatus*	Mediterranean schismus
Stipa hymenoides	Sand rice grass, Indian rice grass
Stipa speciosa	Desert needle grass
THEMIDACEAE	BRODIAEA FAMILY
Dichelostemma capitatum	Blue dicks, wild hyacinth
VERTEBRATE ANIMALS	
REPTILIA	REPTILES
TESTUDINIDAE	LAND TORTOISES
** *Gopherus agassizii*	Desert tortoise (scat and burrow)
IGUANIDAE	IGUANID LIZARDS
Phrynosoma platyrhinos	Desert horned lizard

Sauromalus ater	Common chuckwalla
Sceloporus magister	Desert spiny lizard
Uta stansburiana	Side-blotched lizard
TEIIDAE	WHIPTAILS
Aspidoscelis tigris tigris	Great Basin whiptail
VIPERIDAE	VIPERS
** *Crotalus ruber*	Red diamond rattlesnake
AVES	BIRDS
ACCIPITRIDAE	HAWKS, EAGLES, HARRIERS
Buteo jamaicensis	Red-tailed hawk
FALCONIDAE	FALCONS
Falco sparverius	American kestrel
PHASIANIDAE	GROUSE AND QUAIL
Alectoris chukar	Chukar
COLUMBIDAE	PIGEONS AND DOVES
Zenaida macroura	Mourning dove
CUCULIDAE	CUCKOOS
Geococcyx californianus	Greater roadrunner
STRIGIDAE	TYPICAL OWLS
** *Athene cunicularia*	Burrowing owl
TROCHILIDAE	HUMMINGBIRDS
Calypte anna	Anna's hummingbird
** *Calypte costae*	Costa's hummingbird
TYRANNIDAE	TYRANT FLYCATCHERS
Sayornis saya	Say's phoebe
Tyrannus vociferans	Cassin's kingbird
Tyrannus verticalis	Western kingbird
ALAUDIDAE	LARKS
** *Eremophila alpestris*	Horned lark
CORVIDAE	CROWS AND JAYS
Corvus corax	Common raven
TROGLODYTIDAE	WRENS
Salpinctes obsoletus	Rock wren
MUSCICAPIDAE	THRUSHES AND ALLIES
Polioptila caerula	Blue-gray gnatcatcher
Sialia mexicana	Western bluebird
MIMIDAE	MOCKINGBIRDS AND THRASHERS
Mimus polyglottos	Northern mockingbird
Toxostoma redivivum	California thrasher
PTILOGONATIDAE	SILKY FLYCATCHERS
Phainopepla nitens	Phainopepla
LANIIDAE	SHRIKES
** *Lanius ludovicianus*	Loggerhead shrike
EMBERIZIDAE	SPARROWS, WARBLERS, TANAGERS
Vermivora celata	Orange-crowned warbler
Vermivora ruficapilla	Nashville warbler
Piranga ludoviciana	Western tanager
Chondestes grammacus	Lark sparrow
Amphispiza bilineata	Black-throated sparrow
Artemisiospiza nevadensis	Sagebrush sparrow
Sturnella neglecta	Western meadowlark
FRINGILLIDAE	FINCHES
Haemorhous mexicanus	House finch
MAMMALIA	MAMMALS

LEPORIDAE	HARES AND RABBITS
Lepus californicus deserticola	Black-tailed jackrabbit
Sylvilagus audubonii	Desert cottontail
GEOMYIDAE	POCKET GOPHERS
Thomomys bottae	Botta pocket gopher
CRICETIDAE	RATS AND MICE
Neotoma lepida	Desert wood rat (middens)
CANIDAE	FOXES, WOLVES AND COYOTES
Canis latrans	Coyote (scat and tracks)
MUSTELIDAE	WEASELS AND SKUNKS
** *Taxidea taxus*	American badger (burrow)

Non-native species are indicated by an asterisk. Special-status species are indicated by two asterisks. Other species may have been overlooked or inactive/absent because of the season (amphibians are active during rains, reptiles during summer, some birds (and bats) migrate out of the area for summer or winter, some mammals hibernate etc.).

ALTA MESA WIND PROJECT
Aquatic Resource Delineation Report

Prepared for:

Brookfield

PMB 422
6703 Oak Creek Rd.
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Prepared by:

Aspen environmental group

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September 2020

Contents

Tables

Attachments

Abbreviations and Acronyms

Alta Mesa	Alta Mesa 640 LLC
BLM	Bureau of Land Management
Brookfield	Brookfield Renewable Energy
CDFW	California Department of Fish and Wildlife
CWA	Clean Water Act
CSWRCB	California State Water Resource Control Board
EPA	Environmental Protection Agency
I-10	Interstate 10
MW	megawatt
OHWM	Ordinary High Water Mark
RWCQB	Regional Water Quality Control Board
SSURGO	Soil Survey Geographic Soil Map
USACE	US Army Corps of Engineers
WDR	Waste Discharge Requirements
WTG	Wind Turbine Generator

ALTA MESA WIND PROJECT
Aquatic Resource Delineation Report

Aspen Environmental Group
September 2020

1.0 Introduction

This report presents the methods and results of a field delineation of waters of the U.S. and waters of the State as defined by an Ordinary High Water Mark (OHWM) conducted in 2020 at the proposed Alta Mesa Wind Project site. The Project site is located on private lands in unincorporated Riverside County, California (Figure 1). The Colorado River Basin Regional Water Quality Control Board (RWQCB) regulates ephemeral channels on the site as waters of the State, defined by presence of an OHWM. The US Army Corps of Engineers (USACE) may also regulate these channels as waters of the US, dependent on applicability of recent changes in the definition of waters of the US. This delineation identifies all potentially jurisdictional waters on the Project site according to the presence of an OHWM, in support of any applicable RWQCB or USACE permitting requirement. In addition to RWQCB and USACE regulation, the California Department of Fish and Wildlife (CDFW) may regulate waters of the State according to differing delineation criteria. Potential CDFW jurisdiction on the site is addressed in a separate report. Throughout this report "Impact Area" refers to all portions of the Project site that may be impacted by vegetation clearing, grading, and other project activities. "Impact Area Buffer" is used to define areas that may be impacted by crushing of vegetation and other temporary impacts. "Project site" refers to both the Impact Area and the Impact Area Buffer.

1.1 Project Description

Alta Mesa 640 LLC (Alta Mesa), a subsidiary of Brookfield Renewable Energy (Brookfield), as owner of the Alta Mesa Wind Project (Alta Mesa Wind), is planning to repower the existing wind project located in Riverside County. Alta Mesa is an existing 27 megawatt (MW) wind project with 159 turbines located on land zoned Wind Energy (W-E). W-E zoning allows the development of wind energy subject to approval of a Commercial WECS application. The existing turbines heights range from 114 to 145 feet.

Alta Mesa proposes to construct the Alta Mesa Wind Project (Project), which would include removal of 159 existing wind turbine generators (WTG) and constructing, operating, maintaining, and decommissioning 8 new WTGs. The Project would produce 27 MW of wind energy. The new facilities would be decommissioned at the end of their useful life. Figure 1 illustrates the project location. Alta Mesa is planning to construct the Project in tandem with the adjacent Mesa wind repowering project that is situated on Bureau of Land Management (BLM) lands and is currently going through a separate but similar permitting process. Both projects would share a main access road to the two sites. Concurrent repowering of the two projects (as opposed to two separate construction projects) would provide efficiencies and minimize total ground disturbance required for access road widening, traffic, and other temporary impacts on environmental resources (i.e., noise, dust, etc.).

The proposed locations for 8 WTGs are shown in Figure 1 as a portion of the Project site. The Impact Area within the Project site is approximately 39.9 acres. An Impact Area Buffer was also added around portions of the Impact Area that included an additional 32.4 acres for a total Project site of 72.3 acres. The 32.4 acres Impact Area Buffer is an area where vegetation removal is not anticipated but there may be some

need for drive and crush due to trucks backing up or other unanticipated construction work. An additional impact of 13.2 acres would occur along the main access road to the Project site. Under the decommissioning plan, the legacy turbines and their foundations would be removed and revegetated. Ground disturbance is associated with turbine siting, fill, and widening access roads. The Project would use existing disturbed access roads.

1.2 Project Location

The Project site is located on private lands in unincorporated Riverside County. It is west of the Whitewater River and east of Cottonwood Creek, shown on the White Water USGS 7.5-minute topographic quad (USGS, 1955). The Project site is approximately one mile west of the active Whitewater River channel.

2.0 Site Conditions

2.1 Topography and Surrounding Land Uses

Elevation of the Project site ranges from approximately 2,160 feet at the southeastern corner to approximately 2,821 feet in the northwestern portion of the site. The elevation of the access road drops down to 1,560 feet near Cottonwood Creek. Most surrounding lands are natural open space, with the exception of adjacent parcels to the north and west that are also in use for wind energy production (the Mesa Wind Project). Nearby communities include the community of Whitewater accessed from Haugen-Lehmann Way, southwest of the site; the community of Bonnie Bell to the east; and the community of Snow Creek south of Interstate 10 (I-10).

2.2 Vegetation

Vegetation was mapped throughout the survey area during the 2020 site visits. Polygons were drawn on hard copy aerial images and digitized in ArcGIS once back in the office. The smallest mapping unit was approximately 0.25 acres. Any vegetation map is subject to imprecision for several reasons:

- Vegetation types tend to intergrade on the landscape so that there are no true boundaries in the vegetation itself. In these cases, a mapped boundary represents best professional judgment.
- Vegetation types as they are named and described tend to intergrade; that is, a given stand of real-world vegetation may not fit into any named type in the classification scheme used. Thus, a mapped and labeled polygon is given the best name available in the classification, but this name does not imply that the vegetation unambiguously matches its mapped name.
- Vegetation tends to be patchy. Small patches of one named type are often included within mapped polygons of another type. The size of these patches varies, depending on the minimum mapping units and scale of available aerial imagery.
- Photo interpretation of some types is difficult, such as distinguishing brittlebush scrub from California sagebrush-California buckwheat scrub.

Vegetation mapping units (see Figure 2), descriptions and names are based on alliance level nomenclature in *A Manual of California Vegetation* (Sawyer et al. 2009). Each vegetation type is also defined according to Holland (1986) whenever possible. Common names of plant species are used throughout the following descriptions; Latin names for each species may be found in Attachment B (Species List).

- **Brittle Bush Scrub.** This vegetation is characterized by the dominance of brittlebush. It is the most

abundant vegetation on site and is found primarily on exposed, west- and south-facing slopes. Many other species were observed within brittlebush scrub, but were present in either low numbers or in small patches. Other species observed included California jointfir, cheesebush, California buckwheat, beavertail cactus, Mojave yucca, and chaparral yucca. Brittlebush is a common to dominant species in desert shrublands and in coastal scrub of the interior valleys west of the Project vicinity. On the AM site, brittlebush scrub is similar to descriptions of Riversidean Sage Scrub (Holland 1986), Coastal Scrub (De Becker 1988) and Desert Scrub (Laudenslayer and Boggs 1988).

- **California Juniper Woodland.** This vegetation is characterized by the dominance of California juniper. Within the site it is found on a single north-facing slopes along the northern edge of the site. Additional species observed within juniper woodland include California buckwheat, Mojave yucca, and narrow-leaved goldenbush. This vegetation matches descriptions of Semi-Desert Chaparral and Cismontane Juniper Woodland and Scrub (Holland 1986) and best matches the habitat description for Mixed Chaparral (England 1988).
- **California Sagebrush–California Buckwheat Scrub.** This vegetation is characterized by the co-dominance of California sagebrush and California buckwheat. Within the site it is most common on disturbed soils such as along road cuts and adjacent to graded areas. Additional species, similar to those listed above in brittlebush scrub, are also found in low numbers. This vegetation matches descriptions of Riversidean Sage Scrub and Upper Sonoran Subshrub Scrub (Holland 1986) and best matches the habitat description for Coastal Scrub (De Becker 1988).
- **Creosote Bush–Brittlebush Scrub.** This vegetation is characterized by the co-dominance of creosote bush and brittlebush. It is found throughout much of the site on areas with relatively flat topography. Other species present include white bursage, Mojave yucca, narrow-leaved goldenbush, silver cholla, and California buckwheat. This vegetation best matches the description of Sonoran Creosote Bush Scrub (Holland 1986) and the habitat description of Desert Scrub (Laudenslayer and Boggs 1988).
- **Desert willow woodland**. This vegetation is characterized by the dominance of desert willow. It is not found within the limits of the Alta Mesa right-of-way but is found within the Impact Area and Impact Area Buffer along the access road at Cottonwood Creek on private land. Other species observed within this vegetation include California broom-sage, cheesebush, brittlebush, and punctate rabbit-brush. This vegetation best matches the description of Mojave Desert Wash Scrub (Holland 1986).
- **Developed.** The remainder of the survey area is occupied by roads, cleared areas, and building or O&M pads for the existing wind turbines. These areas are primarily unvegetated but there are some ruderal species present, including red brome, red-stemmed filaree, and schismus grass. In addition, there are several native shrubs on and adjacent to the building pads, such as California buckwheat, narrow-leaved goldenbush, and deerweed. These areas do not match published vegetation descriptions.

2.3 Climate

The site is at the western margin of the Colorado Desert and the Coachella Valley. The climate is typical of regional deserts, with extreme daily temperature changes, low annual precipitation, strong seasonal winds, and mostly clear skies. The Colorado Desert experiences more summer precipitation than the northern deserts, and although annual precipitation is low overall, a substantial portion of it falls during

August and September, usually as brief and intense thunderstorms. The San Gorgonio Pass area experiences higher winds and higher annual rainfall than most of the Colorado Desert, due to its location between the San Bernardino and San Jacinto Mountains, at the boundary of the less-arid cismontane region of California.

Average annual rainfall recorded at the Palm Springs weather station, located approximately 10 miles to the southeast, is 4.85 inches (12.32 cm; U.S. Climate Data 2020). Seasonal rainfall variability is extremely high in the region. The average annual high temperature is 89 degrees Fahrenheit, and the average daily winter low temperature is 60 (U.S. Climate Data 2020).

During early 2019, the region experienced several significant storms. The first of which moved through the area on January 15, 2019. The second and more significant storm moved through the region on February 14 and 15, 2019. This larger storm inundated many streambeds throughout the region and caused significant flooding and damage in watersheds such as Mission Creek, Whitewater River, and Chino Canyon. Rainfall during 2018-2019 rainy season was more than 180 percent of average at 9.11 inches, with more than 4.32 inches falling in February alone (23.32 cm; U.S. Climate Data 2020). This higher than average rainfall in the region is expected to have clearly defined low flow channels within the Project site.

2.4 Hydrology, Geomorphology, and Geology

The Project site is located in the San Bernardino Mountain foothills, in the San Gorgonio Pass, between the San Bernardino and San Jacinto Mountains. The San Bernardino Mountains are part of the east-west trending Transverse Ranges of southern California. The mountains are primarily composed of granitic bedrock. Parent material is largely composed of partially or wholly consolidated granitic alluvium, which has been eroded by storm runoff into dissected channels draining mainly toward the south.

The Project site is located within the Salton Sea Transboundary Watershed (USGS Hydrologic Unit 18100200). Runoff from the eastern portion of the Project site drains eastward to the Whitewater River, which is a tributary of the Salton Sea (Figure 3). Runoff from the remainder of the site drains to the south and west into Cottonwood Creek and the San Gorgonio River to the south of I-10. Part of the Whitewater River are perennial blueline stream and Cottonwood Creek is an ephemeral blueline stream (USGS Whitewater 7.5-minute topographic quadrangle). Two major fault zones run through the San Gorgonio Pass in close proximity to the Project site. The San Andreas Fault crosses from east to west through the project site and the San Gorgonio Fault crosses east to west just to the south of the Project site (USGS, 2020). Fissures along these faults can allow upwelling of groundwater which can create surface ponds (sag ponds) and springs. These features were not observed within the Project site but are present in Whitewater Canyon to the east of the Project site.

2.5 Soils

The Project site is located within two soil survey areas. Soils throughout the majority of the Project site are mapped on the Soil Survey Geographic Soil Map (SSURGO) (NRCS 2020a). The northern portion of the Project site is not included in the SSURGO mapping boundaries; therefore U.S. General Soil Map data were used for this portion of the project area (NRCS 2020c). Soils data from this source is presented in Table 1 and shown on Figure 4 for the Impact Area and Impact Area Buffer. The Project Impact Area and Impact Area Buffer are primarily comprised of Chuckawalla cobbly fine sandy loam (CnE), 55 acres total, and Lithic Torripsamments (LR).

All of the mapped soil types are described as well-drained or somewhat excessively drained and are not prone to flooding. In general, the descriptions of soil types within the Project site indicate that hydric soils

conditions are not expected. However, several of the mapped soil types may contain hydric soil inclusions: CdC, LR, and MaD (NRCS 2019a and 2019b; see Table 1). Based on soil textures and topography, any such hydric inclusions would be located on areas where surface or subsurface ground water is regularly present, such as stream channels with seasonal or perennial flow, or in impoundments.

Table 1. Soil Types within the Project Site

Map Unit Symbol	Map Unit Name	Description
CdC	Carsitas gravelly sand, 0 to 9 percent slopes	Excessively-drained; generally about 800 ft. elevation; parent material of gravelly alluvium derived from granite; depth to water table generally more than 80 in; not prone to flooding; gravelly sand (0–60 in).
ChC	Carsitas cobbly sand, 2 to 9 percent slopes	Excessively-drained; generally about 800 ft. elevation; parent material of gravelly alluvium derived from granite; depth to water table generally more than 80 in; not prone to flooding; cobbly sand (0-10 in., gravelly sand (10-60 in.).
CnC	Chuckawalla cobbly fine sandy loam, 2 to 9 percent slopes	Well-drained; generally 400 – 1000 ft elevation; parent material of gravelly alluvium; depth to water table more than 80 in; not prone to flooding; cobbly fine sandy loam (0–12 in), very gravelly fine sandy loam (12–60 in).
CnE	Chuckawalla cobbly fine sandy loam, 9 to 30 percent slopes	Well-drained; generally 400 – 1000 ft elevation; parent material of gravelly alluvium; depth to water table more than 80 in; not prone to flooding; cobbly fine sandy loam (0–12 in), very gravelly fine sandy loam (12–60 in).
GP	Gravel pits and dumps	Sandy and gravelly alluvium; extremely gravelly coarse sand (0-6 in.), extremely gravelly sand (6-60 in.).
LR[1]	Lithic Torripsamments-Rock outcrop complex	Excessively-drained; generally 650 – 9,000 ft elevation; parent material of sandy alluvium derived from sandstone; depth to water table more than 80 in; not prone to flooding; sands overlying bedrock – sand (0–4 in), bedrock (4–14 in); rock outcrop – unweathered bedrock (0–60 in).
MaD[1]	Myoma fine sand, 5 to 15 percent slopes	Somewhat excessively-drained; generally, at 200 – 1,800 ft. elevation; parent material of alluvium; depth to water table generally more than 80 inches; not prone to flooding; fine sand (0 – 18 in), sand (18 – 60 in).
s1053	Springdale-Rock outcrop-Etsel family	*Springdale Series* – Somewhat excessively-drained; terrace treads and risers at 150 – 3,500 ft. elevation; moderately coarse-textured alluvium dominantly from granite; slopes of 0 – 70 percent; gravelly ashy coarse sandy loam (0 – 13 in), very gravelly loamy and coarse sand (13 – 25 in); variegated very cobbly coarse sand (25 – 61 in). *Etsel Series* – Somewhat excessively-drained; mountains at 150 – 3,500 ft. elevation; moderately coarse-textured alluvium dominantly from granite; slopes of 15 – 85 percent; gravelly loam (0 – 3 in), very gravelly loam (3 – 7 in); fractured and hard, slightly weathered, fine grained sandstone and shale (7 in).
BA	Badlands	Excessively-drained; generally, in uplands; parent material of consolidated sandy alluvium; weathered bedrock (0–60 in).
—	Not mapped	Areas in which the soil type was not mapped by surveyors.

3.0 Regulatory Background

Jurisdictional waters of the State and waters of the U.S. are regulated by the RWQCB and the USACE as summarized in the paragraphs that follow. Both agencies regulate both wetlands and non-wetland hydrologic features (e.g., intermittent stream channels). Both agencies also use soils, hydrology, and vegetation criteria defined by the USACE (1987) to evaluate wetlands, but they may apply differing standards to determine whether a given site is a wetland. The two agencies also have differing statutory definitions of their limits of jurisdiction in both non-wetland and wetland areas.

- **Regional Water Quality Control Boards**. The RWQCBs regulate waters of the State under Section 401 of the federal Clean Water Act (CWA) and under the California Porter-Cologne Water Quality Control Act. In cases where a project overlaps two RWQCB boundaries, the California State Water Resources Control Board (CSWRCB) is the regulatory authority. The Mesa Wind site is within the Colorado River RWQCB jurisdictional area. In addition, the CSWRCB announced a new regulatory program addressing waters of the State which is currently being implemented by the RWQCBs.
- **US Army Corps of Engineers**. The USACE regulates waters of the US under Section 404 of the federal CWA. The interpretation of waters of the US was recently changed to exclude ephemeral drainages.

3.1 Porter-Cologne Water Quality Control Act

The RWQCBs regulate activities affecting waters of the State according to the Porter-Cologne Water Quality Control Act and Section 401 of the federal CWA (below). The Porter-Cologne Act defines waters of the State as all surface and subsurface waters. The RWQCBs may issue permits (called Waste Discharge Requirements or WDRs) or may issue a waiver for a given application. In addition, the California State Water Resources Control Board (CSWRCB) will direct RWQCBs to implement a new regulatory program for all waters of the State, taking affect in May 2020 (CSWRCB 2019). For non-wetland waters of the State, CSWRCB procedures and guidelines recognize the OHWM as defined by federal guidelines (CSWRCB 2019, 2020; see also USACE 2008a, 2008b) as the limits of jurisdiction. However, waters of the State include isolated waters and need not have downstream surface connection to federally jurisdictional waters (compare with Federal Clean Water Act Section 404, below). The new program will use the soils, hydrology, and vegetation criteria to identify wetlands, but may define certain unvegetated sites (e.g., mud flats or playas) as wetlands based on only the soils and hydrology criteria. The Project Area is within the jurisdictional boundaries of the Colorado River RWQCB.

3.3 Federal Clean Water Act

Section 401. Section 401 of the CWA is administered by the RWQCBs (except in cases where a project overlaps two RWQCB boundaries, where it is administered by the CSWRCB). Section 401 requires that projects involving discharge to waters of the State (defined under Porter-Cologne Water Quality Control Act) must obtain State certification that the project will comply with the federal CWA to receive federal authorization. Therefore, before the USACE may issue a CWA Section 404 permit, a permittee must apply for and receive a Section 401 Water Quality Certification or waiver from the appropriate RWQCB. The RWQCB may add conditions (i.e., WDRs, above) to their certification to remove or mitigate potential impacts to water quality standards. Such conditions must ultimately be included in the federal permit.

All waterways within the Alta Mesa Wind Project area are ephemeral desert washes and may not meet current criteria for federal jurisdiction as waters of the U.S. (USACE and EPA, 2020). The USACE has not issued a jurisdictional determination for the site. If no federally jurisdictional waters of the U.S. are present, the CWA Section 401 requirement will not apply; nonetheless the RWQCB will have permitting authority for activities affecting waters of the State, including ephemeral washes, under the Porter-Cologne Water Quality Control Act (above).

Section 404. Section 404 of the CWA is administered by the USACE. Any activity that would place dredged or fill material within jurisdictional waters of the U.S. must obtain USACE authorization. USACE jurisdiction is defined by presence of an OHWM and by a nexus to interstate commerce such as downstream surface connectivity to traditional navigable waters of the US. The USACE defines wetlands according to the soils, hydrology and vegetation criteria, generally requiring presence of all three to meet the definition. USACE

jurisdiction generally extends to wetlands that are adjacent to jurisdictional waters of the U.S., but not to wetlands that are distant or isolated from federally jurisdictional waters. All waterways within the Mesa Wind Project area are ephemeral washes and may not meet current or pending criteria for federal jurisdiction as waters of the U.S. (USACE and EPA, 2020). The USACE has not issued a jurisdictional determination for the site. If no federally jurisdictional waters of the U.S. are present, CWA Section 404 will not apply.

4.0 Delineation Methodology

All ephemeral washes on the site where an OHWM is present are waters of the State, as defined by RWQCB and may be waters of the US, dependent on the applicable federal definition. The field methods described here focused on locations of anticipated or potential impacts (i.e., streambed alterations or dredge or fill activity, according to the relevant regulations). Aspen biologists Justin Wood and Jacob Aragon visited the Project site on March 26, 2020 to conduct the jurisdictional delineation of the Project site. Prior to conducting the 2020 field assessment, Mr. Wood reviewed current and historic aerial photographs, detailed topographic maps, available soils information, and local and state hydric soil list information to evaluate potential jurisdictional features.

All drainages that cross through or originate within the Impact Area and Impact Area Buffer were visited in the field and mapped on high-resolution aerial photographs (see Figure 5). GPS points were recorded using a Trimble Juno SB GPS unit where each drainage intersects the Impact Area and Impact Area Buffer. The width of the OHWM at each jurisdictional drainage was recorded, based on physical and biological features, such as bank erosion, deposited vegetation or debris, and vegetation characteristics. Data for the largest features, drainage 6 which continues downstream and becomes drainage 5 was collected on the updated Arid West OHWM Datasheet. For several of the larger drainages, Mr. Wood walked the centerline of the drainage throughout the proposed disturbance area. Field maps were digitized using Global Information System (GIS) technology and the total area of jurisdictional features was calculated. No potentially jurisdictional wetlands are present within the Project site as defined by the USACE Wetland Delineation Manual (1987) and the Arid West Supplement (2008b), or by new CSWRCB (2019) criteria.

5.0 Results

A total of 30 ephemeral drainages and erosional features with clearly defined OHWMs were mapped within the Project site. Of these drainages, 22 are within the Impact Area and 27 are within the Impact Area Buffer. These drainages exhibited field indicators of ephemeral active flow such as linear deposits of sediment and/or plant debris, bank scour, and erosion. The lengths and acreages of the ephemeral drainages are shown below in Table 2 and their locations are shown on Figure 5. These ephemeral desert washes and erosional features are likely to meet the definition of waters of the State as regulated by the RWQCB. These ephemeral drainages are not likely to be considered jurisdictional by the USACE under the most current criteria for federal jurisdiction as Waters of the U.S. (USACE and EPA, 2020). All 30 drainages within the Project site are classified as intermittent riverine according to Cowardin classification (Cowardin et al, 1979).

Table 2. Impacts to Ephemeral Drainages within the Project Site

Drainage Number (see Figure 5)[1]	Impact Area		Impact Area Buffer		Watershed
	Area (acres)	Length (linear feet)	Area (acres)	Length (linear feet)	
1	0.16	51	0.13	41	Cottonwood
2	0.03	52	0.02	39	Cottonwood
3	--	--	0.09	264	Cottonwood
4	--	--	0.01	72	Cottonwood
5	0.10	636	0.04	149	Cottonwood
6	0.06	185	0.03	101	Cottonwood
7	0.09	778	--	--	Cottonwood
8	0.14	247	0.07	102	Cottonwood
9	0.00	51	0.01	134	Cottonwood
10	0.02	234	0.01	112	Cottonwood
11	--	--	0.01	329	Cottonwood
12	0.01	29	0.02	121	Cottonwood
13	0.07	762	0.03	157	Cottonwood
14	0.22	1366	0.12	985	Cottonwood
15	0.01	57	0.03	315	Cottonwood
16	0.03	284	--	--	Cottonwood
Main Access Road Subtotal	0.92	4734	0.62	2922	
17	--	--	0.00	118	Cottonwood
18	--	--	0.00	42	Cottonwood
19	--	--	0.00	28	Cottonwood
20	0.00	219	0.00	60	Cottonwood
21	0.01	73	0.01	108	Cottonwood
22	0.06	936	0.01	339	Whitewater
23	0.02	841	--	--	Whitewater
24	0.00	84	0.00	139	Whitewater
25	--	--	0.00	49	Whitewater
26	0.01	224	0.00	49	Whitewater
27	0.00	95	0.00	187	Whitewater
28	0.01	363	0.00	56	Whitewater
29	--	--	0.00	25	Whitewater
30	0.03	762	0.00	45	Whitewater
Wind Site Subtotal	0.15	3596	0.04	1243	
TOTAL	**1.07**	**8330**	**0.66**	**4165**	

The conclusions presented above represent observations made in the field and on Aspen's knowledge and experience with the USACE and RWCB, including regulatory guidance documents and manuals. The USACE and RWCB will have final authority in determining the status and presence and extent of jurisdictional waters of the State and waters of the US.

6.0 References

Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page.

CSWRCB (California State Water Resources Control Board). 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. [Online]: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/procedures_conformed.pdf

_____. 2020. Draft Guidance for the State Wetland Definition and Procedures for Discharges of dredged or Fill Material to Waters of the State. [Online]: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/guidance_02142020.pdf

De Becker, S. 1988. Coastal scrub. Pages 108-109 in K.E. Mayer & W.F. Laudenslayer, eds., A guide to wildlife habitats of California. California Dept. of Forestry and Fire Protection, Sacramento CA.

England, A.S. 1988. Mixed chaparral. Pages 104-105 in K.E. Mayer & W.F. Laudenslayer, eds., A guide to wildlife habitats of California. California Dept. of Forestry and Fire Protection, Sacramento CA.

Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. Unpublished report available from California Department of Fish and Game, Sacramento, California.

Laudenslayer, W.F., Jr. and J.R. Boggs. 1988. Desert scrub. Pages 114-115 in K.E. Mayer & W.F. Laudenslayer, eds., A guide to wildlife habitats of California. California Dept. of Forestry and Fire Protection, Sacramento, CA.

NRCS (Natural Resource Conservation Service). 2020a. Web Soil Survey 2.0. http://websoilsurvey.nrcs.usda.gov/. Website accessed July 2020.

_____. 2020b. National Hydric Soil List by State. http://soils.usda.gov/use/hydric/. Website accessed July 2020. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316619.html. Accessed May 2020

_____. 2020c. U.S. General Soil Map (STATSGO2). http://soils.usda.gov/survey/geography/ssurgo/description_statsgo2.html Accessed July 2020.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, CA. 1300 pp.

USACE (U.S. Army Corps of Engineers). 1987. Corps of Engineers Wetlands Delineation Manual. Wetlands Research Program Technical Report Y-87-1. January.

_____. 2008a. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States A Delineation Manual. Ed. R. W. Lichvar and S. M. McColley. ERDC/CRREL TR-08-12. Hanover, NH, U.S. Army Engineer Cold Regions Research and Engineering Laboratory.

_____. 2008b. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

_____ and EPA (US Environmental Protection Agency). 2020. The Navigable Waters Protection Rule: Definition of "Waters of the United States." Final rule, prepublication copy issued January 23, 2020 pending publication in Federal Register. https://www.epa.gov/sites/production/files/2020-01/documents/navigable_waters_protection_rule_prepbulication.pdf. Accessed March 2020.

U.S. Climate Data, 2020. U.S. Climate Data Website. https://www.usclimatedata.com/climate/palm-springs/california/united-states/usca0828. Accessed August 2020.

USGS (United States Geological Survey). 2020. Interactive Fault Map. https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf Accessed August 2020.

_____. 1955. Whitewater, California 7.5-minute Topographic Quadrangle.

Attachment 1 – Figures

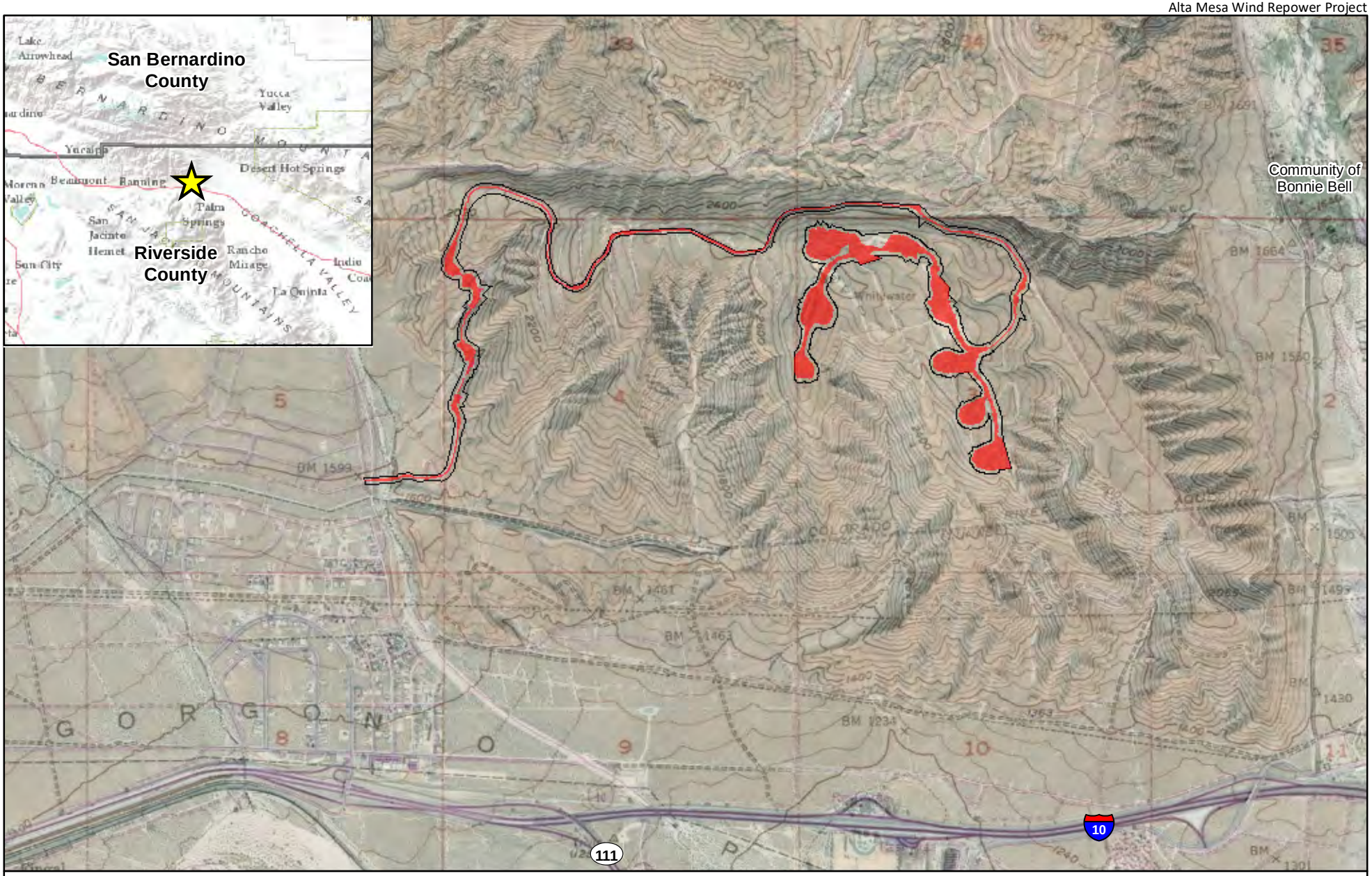
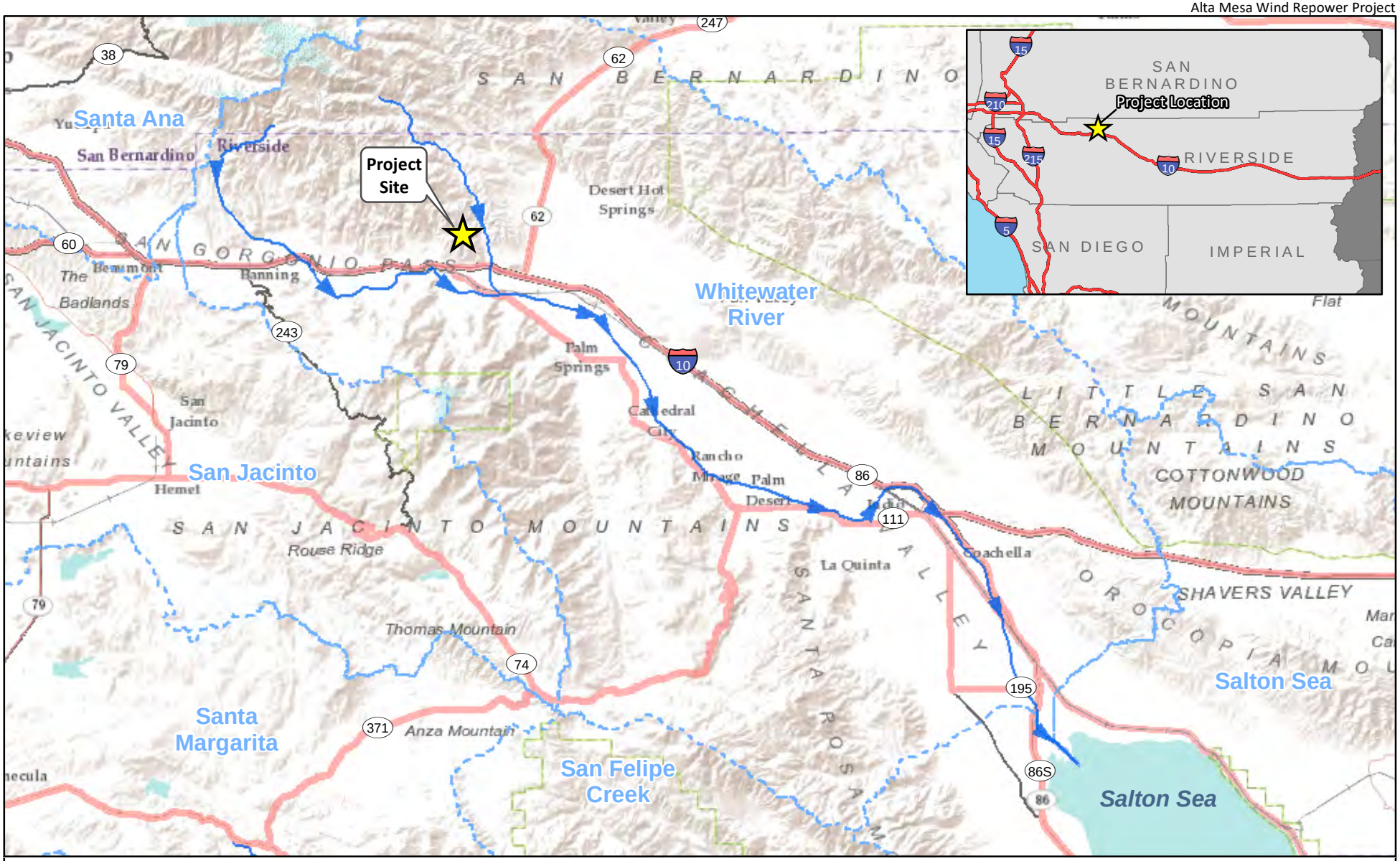


Figure 1.

Project Location



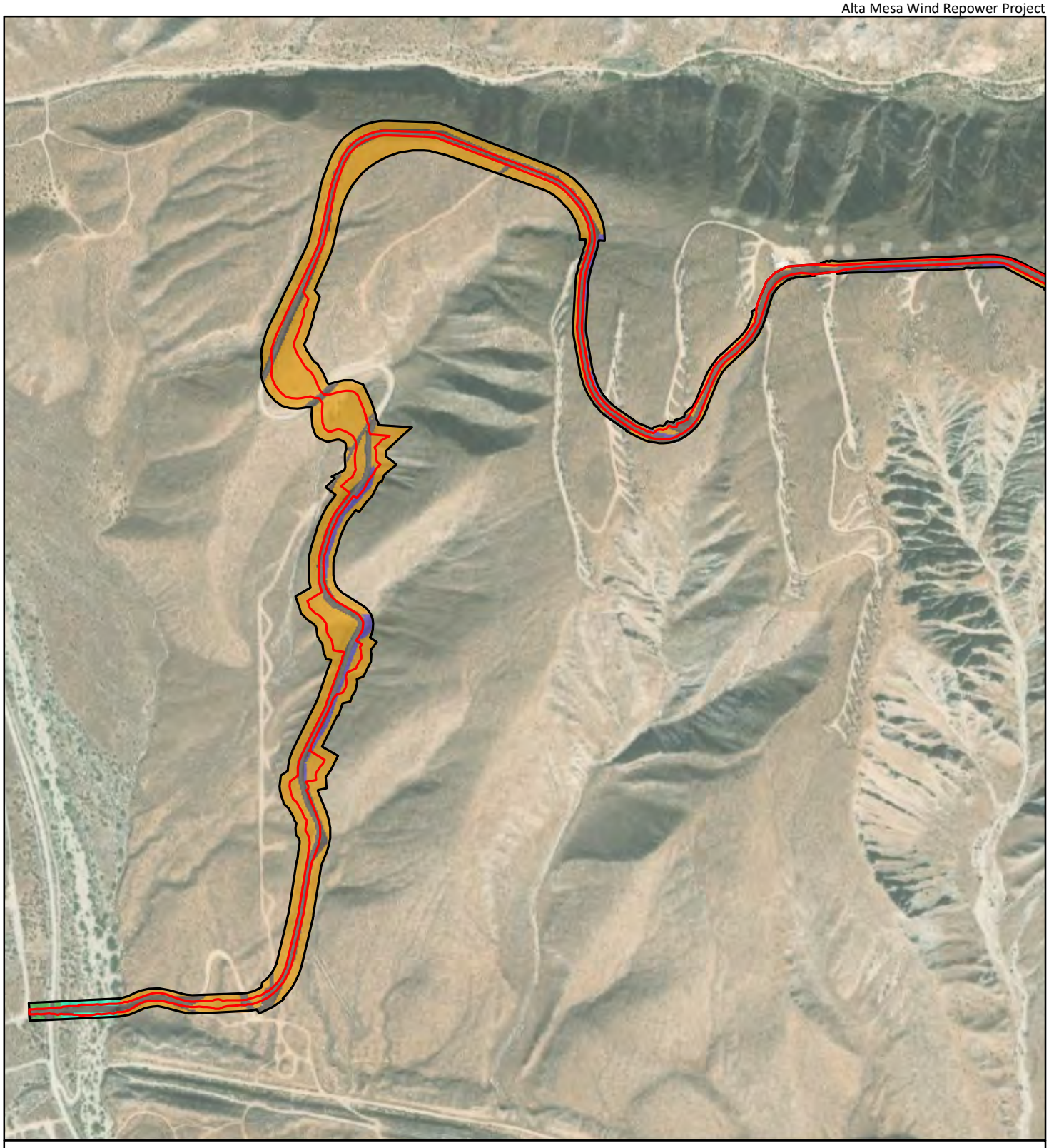
5 0 5
Miles

Watershed Boundary

Major River or Stream Flow Pattern

Figure 2.

Project Vicinity and Major Hydrological Flow Patterns



Project Impact Area
Potential Disturbance Buffer

Vegetation and Cover Types

- Brittlebush scrub
- California juniper woodland alliance
- California sagebrush-buckwheat scrub
- Creosote bush-brittle bush scrub
- Desert willow woodland
- Developed, Ruderal or Disturbed

N

0 1,000
Feet

Figure 3.

Vegetation
Page 1 of 2

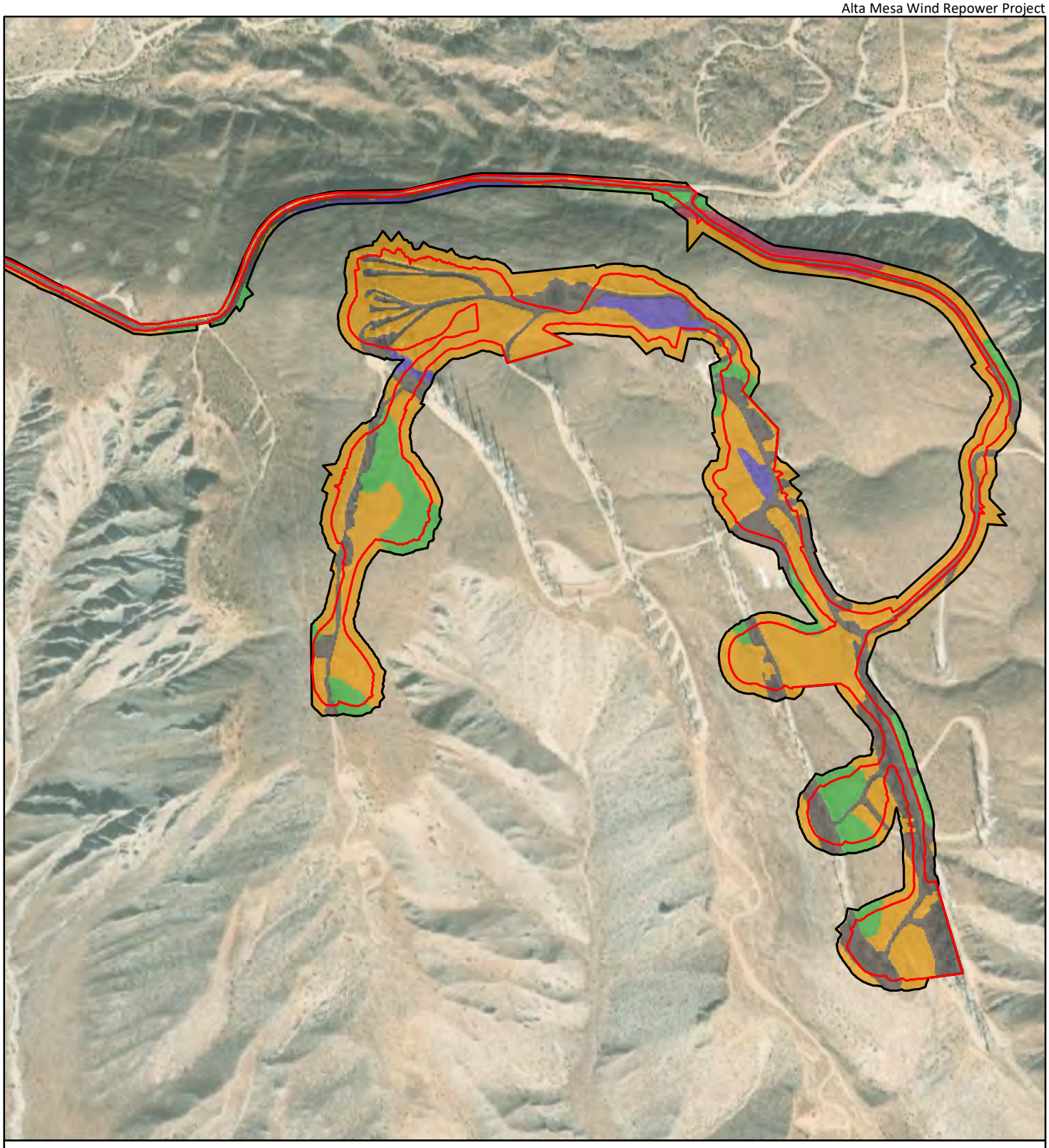
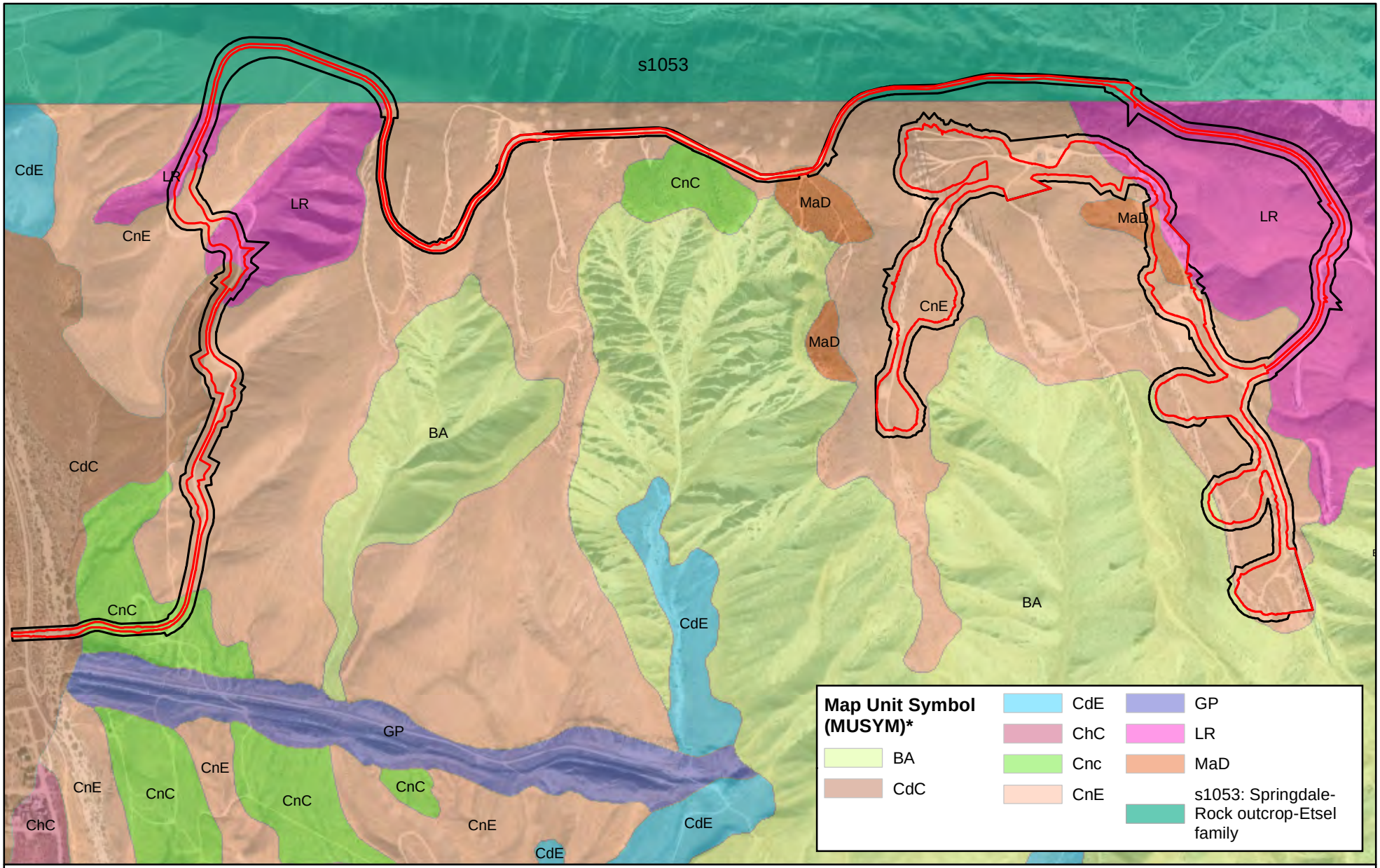


Figure 3.

Vegetation
Page 2 of 2



*Descriptions of each soil type can be found in Table 3.1

N

0 1,000

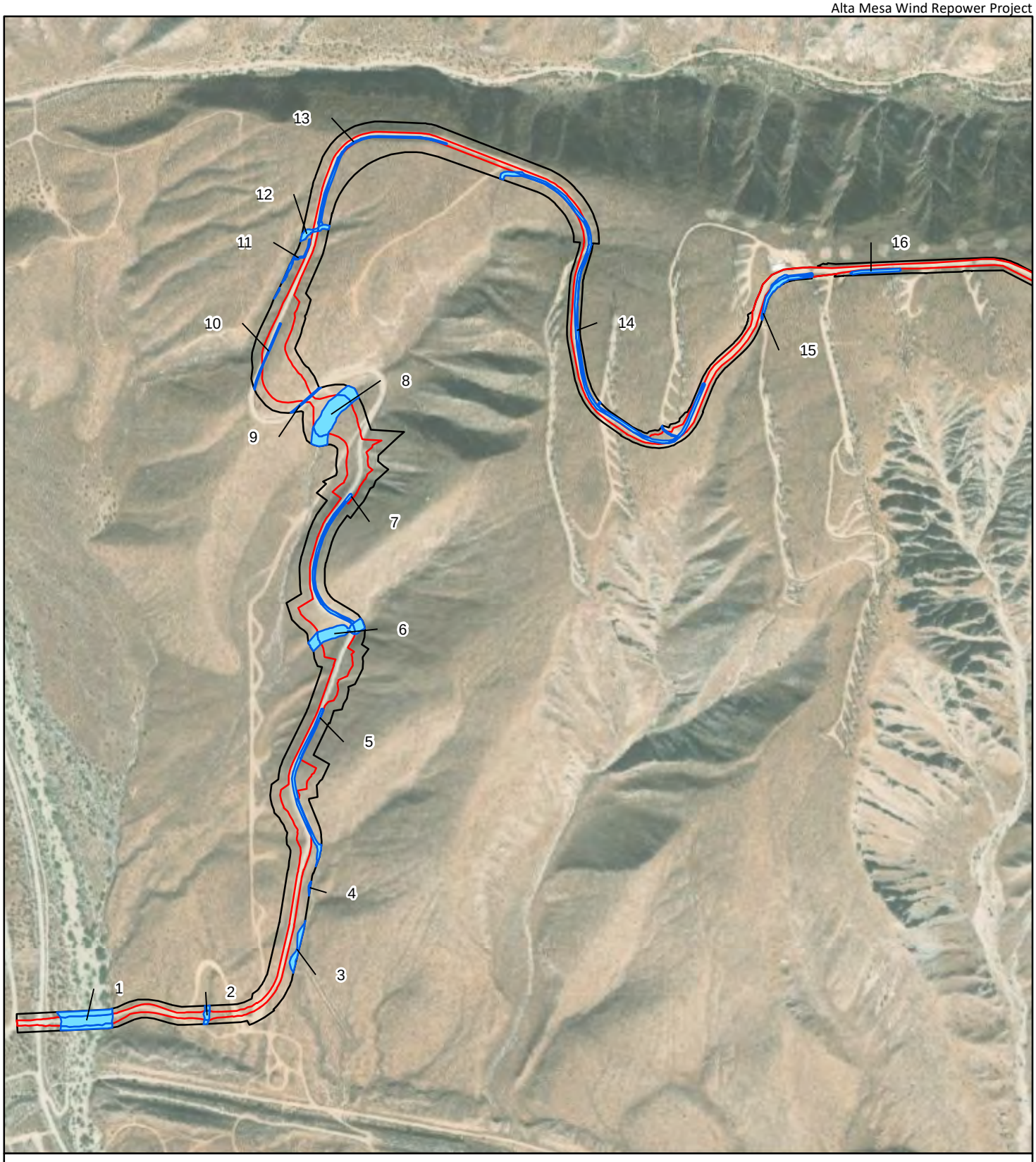
Feet

Project Impact Area

Potential Disturbance Buffer

Figure 4.

Soils



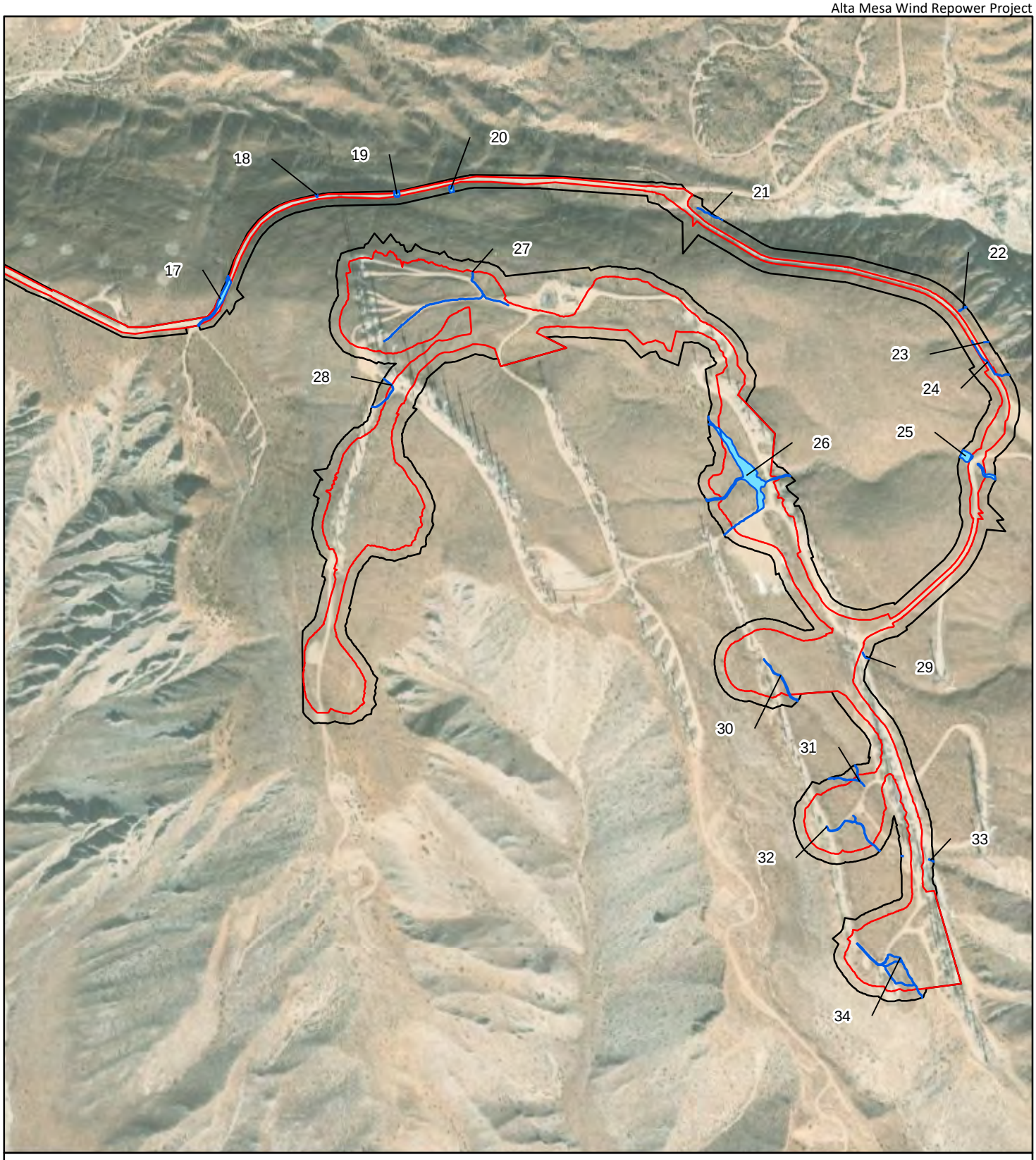
Project Impact Area
Potential Disturbance Buffer
CDFW Jurisdictional Streambeds

N

0 1,000
Feet

Figure 5.

Drainages
Page 1 of 2



Project Impact Area
Potential Disturbance Buffer
CDFW Jurisdictional Streambeds

N

0 1,000
Feet

Figure 5.

Drainages
Page 2 of 2

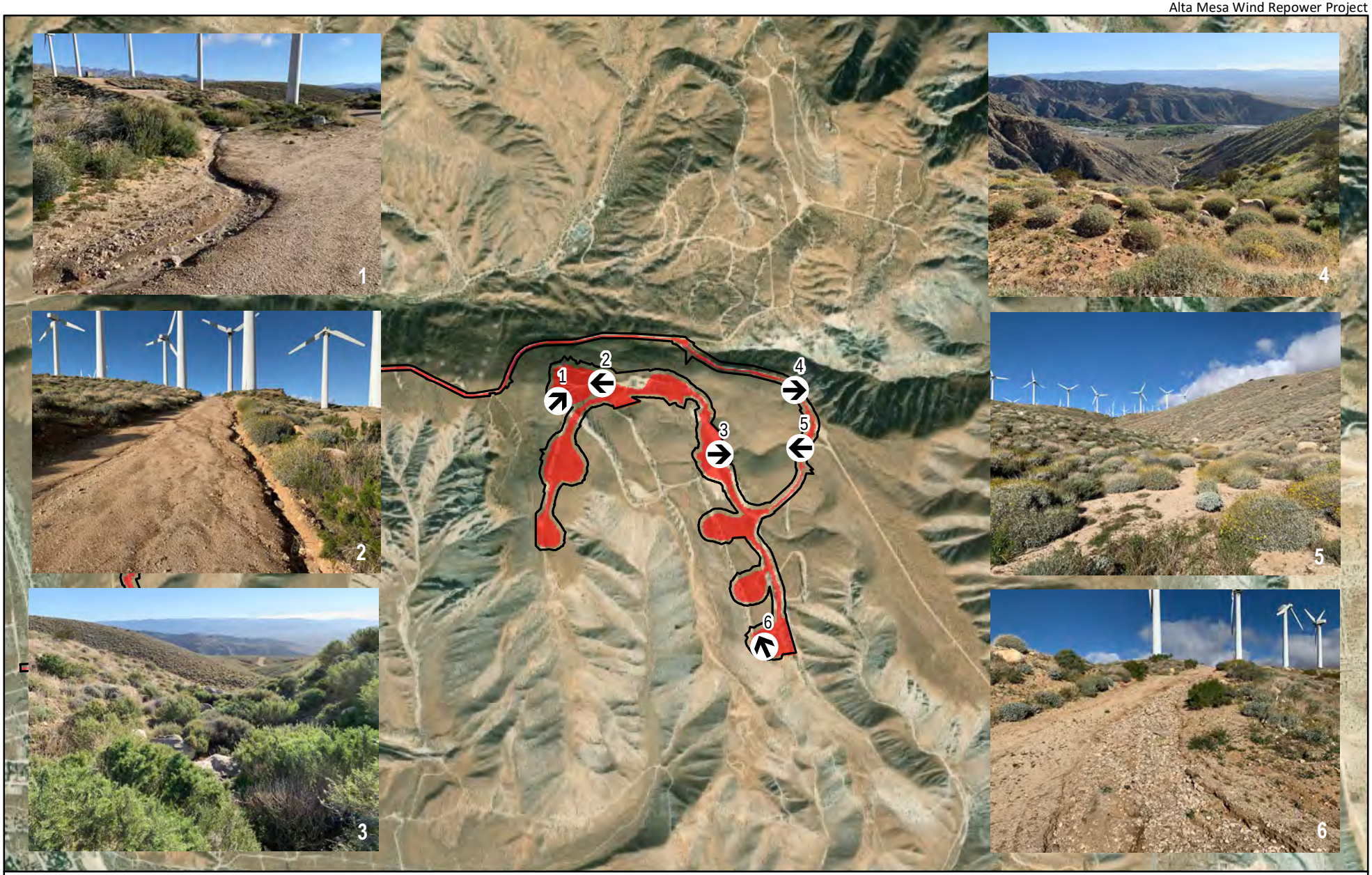


Figure 6.

Photo Exhibit

Attachment 2 – Observed Species List

Latin Name	**Common Name**
VASCULAR PLANTS	
Dicotyledons	
SELAGINELLACEAE	SPIKE-MOSS FAMILY
Selaginella bigelovii	Bigelow spike moss
CUPRESSACEAE	CYPRESS FAMILY
Juniperus californica	California juniper
EPHEDRACEAE	EPHEDRA FAMILY
Ephedra californica	Desert tea
ANACARDIACEAE	SUMAC or CASHEW FAMILY
Rhus ovata	Sugar bush
ASTERACEAE	ASTER FAMILY
Acamptopappus sphaerocephalus	Rayless goldenhead
Ambrosia acanthicarpa	Annual bur-sage
Ambrosia dumosa	White bur-sage, burrobush
Ambrosia salsola	Common burrobrush, cheesebush
Artemisia californica	California sagebrush
Bahiopsis parishii	Parish's goldeneye
Bebbia juncea var. *aspera*	Sweetbush
Brickellia californica	California brickellbush
Chaenactis fremontii	Fremont pincushion
Corethrogyne filaginifolia	California-aster, sand-aster
Encelia farinosa	Brittlebush
Encelia frutescens	Rayless encelia
Encelia virginensis	Virgin River encelia
Ericameria linearifolia	Interior goldenbush
Ericameria nauseosa	Common rabbitbrush
Ericameria paniculata	Black-banded rabbitbrush, punctate rabbitbrush
Ericameria pinifolia	Pine-bush, pine goldenbush
Eriophyllum wallacei	Wallace's woolly daisy
Geraea canescens	Desert-sunflower
Gutierrezia sarothre	Matchweed
Lasthenia gracilis	Goldfields
Lasthenia californica	California goldfields
* *Logfia gallica*	Daggerleaf cottonrose
Malacothrix glabrata	Desert dandelion
Rafinesquia neomexicana	Desert chicory
Stephanomeria exigua	Wreath plant
Stephanomeria pauciflora	Wire-lettuce, desert straw
Tetradymia comosa	Hairy horsebrush
Uropappus lindleyi	Silverpuffs
BORAGINACEAE	BORAGE OR WATERLEAF FAMILY
Amsinckia intermedia	Large flower rancher's fiddleneck
Amsinckia tessellata	Checker fiddleneck
Cryptantha angustifolia	Narrow-leaved cryptantha
Cryptantha barbigera	Bearded cryptantha
Cryptantha muricata	Prickly cryptantha
Emmenanthe penduliflora	Whispering bells
Eucrypta chrysanthemifolia	Spotted eucrypta
Nemophila menziesii	Baby blue eyes
Pectocarya linearis ssp. *ferocula*	Narrow-toothed pectocarya, comb-bur
Phacelia distans	Common phacelia

	Phacelia minor	Wild canterbury bells
BRASSICACEAE		MUSTARD FAMILY
*	*Brassica tournefortii*	Sahara mustard, wild turnip
*	*Hirschfeldia incana*	Shortpod mustard
	Lepidium nitidum	Shining peppergrass
*	*Sisymbrium orientale*	Hare's ear cabbage
	Streptanthella longirostris	Streptanthella
	Tropidocarpum gracile	Slender adobe-pod
CACTACEAE		CACTUS FAMILY
	Cylindropuntia echinocarpa	Silver cholla
	Cylindropuntia ramosissima	Pencil cholla
	Echinocereus engelmannii	Engelmann hedgehog cactus
	Opuntia basilaris var. *basilaris*	Beavertail cactus
CHENOPODIACEAE		GOOSEFOOT FAMILY
	Atriplex canescens	Four-wing saltbush
	Grayia spinosa	Spiny hop-sage
CLEOMACEAE		SPIDERFLOWER FAMILY
	Peritoma arborea	Bladderpod
CRASSULACEAE		STONECROP FAMILY
	Crassula connata	Pygmy-weed
	Dudleya lanceolata	Lance-leaved dudleya
	Dudleya saxosa spp. *aloides*	Desert dudleya
CUCURBITACEAE		GOURD FAMILY, CUCUMBER FAMILY
	Marah macrocarpa	Chilicothe, wild cucumber
EUPHORBIACEAE		SPURGE FAMILY
	Stillingia linearifolia	Linear-leaved stillingia
FABACEAE		LEGUME FAMILY, PEA FAMILY
	Acmispon glaber var. *glaber*	Deerweed
	Acmispon strigosus	Desert lotus
	Lupinus bicolor	Annual lupine
	Lupinus concinnus	Bajada lupine
	Lupinus sparsiflorus	Coulter's lupine
	Psorothamnus emoryi	Emory indigo-bush, dye-weed
	Senegalia greggii	Catclaw acacia
GERANIACEAE		GERANIUM FAMILY
*	*Erodium cicutarium*	Redstem filaree
LAMIACEAE		MINT FAMILY
	Salvia apiana	White sage
	Salvia columbariae	Chia
	Scutellaria mexicana	Bladder-sage, paper bag bush
LOASACEAE		LOASA FAMILY, STICK-LEAF FAMILY
	Mentzelia involucrata	Sand blazing star
MALVACEAE		MALLOW FAMILY
	Sphaeralcea ambigua var. *ambigua*	Apricot mallow, desert mallow
MONTIACEAE		MINER'S LETTUCE FAMILY, MONTIA FAMILY
	Calyptridium monandrum	Pussypaws, common calyptridium
NYCTAGINACEAE		FOUR O'CLOCK FAMILY
	Abronia villosa var. *villosa*	Sand verbena
	Mirabilis laevis var. *villosa*	Desert wishbone bush
ONAGRACEAE		EVENING-PRIMROSE FAMILY
	Camissonia campestris	Field evening-primrose
	Camissoniopsis bistorta	California sun cup

Camissoniopsis pallida	Pale suncup
Eremothera boothii ssp. *condensata*	Booth's evening primrose
Eulobus californica	California false mustard
PAPAVERACEAE	POPPY FAMILY
Eschscholzia parishii	Parish's gold poppy
PLANTAGINACEAE	PLANTAIN FAMILY
Plantago ovata	Desert plantain
POLEMONIACEAE	PHLOX FAMILY
Eriastrum eremicum ssp. *eremicum*	Desert woolly-star
Gilia angelensis	Chaparral gilia, common gilia
Gilia capitata	Blue field gilia
Gilia ochroleuca ssp. *exilis*	Volcanic gilia
Leptosiphon liniflorus	Flax-flowered linanthus
POLYGONACEAE	BUCKWHEAT FAMILY
Chorizanthe brevicornu	Brittle spine flower
Eriogonum elongatum var. *elongatum*	Long-stem wild buckwheat, wand buckwheat
Eriogonum fasciculatum	California buckwheat
Eriogonum inflatum	Desert trumpet
RANUNCULACEAE	BUTTERCUP FAMILY
Delphinium parishii ssp. *parishii*	Parish's larkspur
SOLANACEAE	NIGHTSHADE FAMILY
Lycium andersonii	Anderson box-thorn
ZYGOPHYLLACEAE	CALTROP FAMILY
Larrea tridentata	Creosote bush

Monocotyledons	
AGAVACEAE	CENTURY PLANT FAMILY, AGAVE FAMILY
Hesperoyucca whipplei	Chaparral yucca
Yucca schidigera	Mojave yucca
POACEAE	GRASS FAMILY
* *Avena barbata*	Slender wild oat
* *Bromus berteroanus*	Chilean chess
* *Bromus madritensis* ssp. *rubens*	Red brome
* *Bromus tectorum*	Cheat grass
Festuca microstachys	Small fescue
Festuca octoflora	Sixweeks grass, slender fescue
Hilaria rigida	Big galleta
* *Hordeum murinum*	Wall barley, hare barley
Poa secunda	Nevada blue grass, nodding blue grass
* *Schismus barbatus*	Mediterranean schismus
Stipa hymenoides	Sand rice grass, Indian rice grass
Stipa speciosa	Desert needle grass
THEMIDACEAE	BRODIAEA FAMILY
Dichelostemma capitatum	Blue dicks, wild hyacinth

VERTEBRATE ANIMALS	
REPTILIA	REPTILES
TESTUDINIDAE	LAND TORTOISES
** *Gopherus agassizii*	Desert tortoise (scat and burrow)
IGUANIDAE	IGUANID LIZARDS
Phrynosoma platyrhinos	Desert horned lizard
Sauromalus ater	Common chuckwalla

Sceloporus magister	Desert spiny lizard
Uta stansburiana	Side-blotched lizard
TEIIDAE	WHIPTAILS
Aspidoscelis tigris tigris	Great Basin whiptail
VIPERIDAE	VIPERS
** *Crotalus ruber*	Red diamond rattlesnake
AVES	BIRDS
ACCIPITRIDAE	HAWKS, EAGLES, HARRIERS
Buteo jamaicensis	Red-tailed hawk
FALCONIDAE	FALCONS
Falco sparverius	American kestrel
PHASIANIDAE	GROUSE AND QUAIL
Alectoris chukar	Chukar
COLUMBIDAE	PIGEONS AND DOVES
Zenaida macroura	Mourning dove
CUCULIDAE	CUCKOOS
Geococcyx californianus	Greater roadrunner
STRIGIDAE	TYPICAL OWLS
** *Athene cunicularia*	Burrowing owl
TROCHILIDAE	HUMMINGBIRDS
Calypte anna	Anna's hummingbird
** *Calypte costae*	Costa's hummingbird
TYRANNIDAE	TYRANT FLYCATCHERS
Sayornis saya	Say's phoebe
Tyrannus vociferans	Cassin's kingbird
Tyrannus verticalis	Western kingbird
ALAUDIDAE	LARKS
** *Eremophila alpestris*	Horned lark
CORVIDAE	CROWS AND JAYS
Corvus corax	Common raven
TROGLODYTIDAE	WRENS
Salpinctes obsoletus	Rock wren
MUSCICAPIDAE	THRUSHES AND ALLIES
Polioptila caerula	Blue-gray gnatcatcher
Sialia mexicana	Western bluebird
MIMIDAE	MOCKINGBIRDS AND THRASHERS
Mimus polyglottos	Northern mockingbird
Toxostoma redivivum	California thrasher
PTILOGONATIDAE	SILKY FLYCATCHERS
Phainopepla nitens	Phainopepla
LANIIDAE	SHRIKES
** *Lanius ludovicianus*	Loggerhead shrike
EMBERIZIDAE	SPARROWS, WARBLERS, TANAGERS
Vermivora celata	Orange-crowned warbler
Vermivora ruficapilla	Nashville warbler
Piranga ludoviciana	Western tanager
Chondestes grammacus	Lark sparrow
Amphispiza bilineata	Black-throated sparrow
Artemisiospiza nevadensis	Sagebrush sparrow
Sturnella neglecta	Western meadowlark
FRINGILLIDAE	FINCHES
Haemorhous mexicanus	House finch
MAMMALIA	MAMMALS

LEPORIDAE	HARES AND RABBITS
Lepus californicus deserticola	Black-tailed jackrabbit
Sylvilagus audubonii	Desert cottontail
GEOMYIDAE	POCKET GOPHERS
Thomomys bottae	Botta pocket gopher
CRICETIDAE	RATS AND MICE
Neotoma lepida	Desert wood rat (middens)
CANIDAE	FOXES, WOLVES AND COYOTES
Canis latrans	Coyote (scat and tracks)
MUSTELIDAE	WEASELS AND SKUNKS
** *Taxidea taxus*	American badger (burrow)

Non-native species are indicated by an asterisk. Special-status species are indicated by two asterisks. Other species may have been overlooked or inactive/absent because of the season (amphibians are active during rains, reptiles during summer, some birds (and bats) migrate out of the area for summer or winter, some mammals hibernate etc.). Taxonomy and nomenclature generally follow Stebbins (2003) for amphibians and reptiles, AOU (1998) for birds, Jones et al. (1992) for mammals, and Baldwin et al. (2012) for plants.

Attachment 3 – Arid West OHWM Datasheet

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Alta Mesa
Project Number: 3210
Stream: Unnamed tributary
Investigator(s): Justin Wood

Date: 3/26/2020 **Time:** 08:15
Town: Whitewater **State:** CA
Photo begin file#: **Photo end file#:**

Y [X] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [X] Is the site significantly disturbed?

Location Details:
Drainage 6 within Wind Site.

Projection: **Datum:** WGS84
Coordinates: 33.943835 , -116.659996

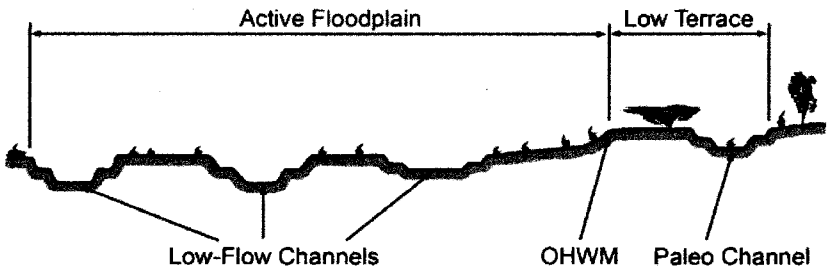
Potential anthropogenic influences on the channel system:
Numerous dirt roads throughout wind project. Most have culverts that focus flows.

Brief site description:
Alta Mesa Wind Project. Located on mesa west of Whitewater Canyon and north of San Gorgonio Pass (Interstate 10)

Checklist of resources (if available):

- [X] Aerial photography
  Dates: 9/1996 - 12/2019
- [X] Topographic maps
- [ ] Geologic maps
- [X] Vegetation maps
- [X] Soils maps
- [ ] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [ ] Global positioning system (GPS)
- [ ] Other studies
- [ ] Stream gage data
  Gage number:
  Period of record:
  - [ ] History of recent effective discharges
  - [ ] Results of flood frequency analysis
  - [ ] Most recent shift-adjusted rating
  - [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

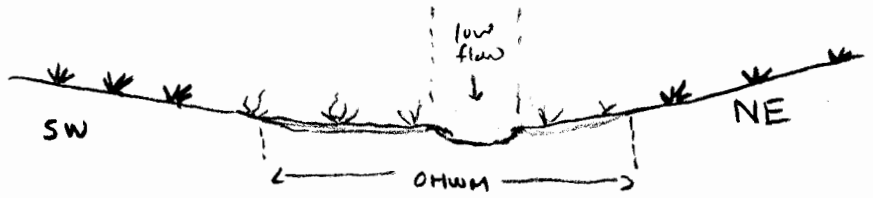


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [X] GPS
   - [ ] Digitized on computer
   - [ ] Other:

Project ID: 3210 **Cross section ID:** 1 **Date:** 3/26/2020 **Time:** 08:15

Cross section drawing:



OHWM

GPS point: 33.943781, -116.660034

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [ ] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

OHWM is mainly delineated based on recent sediment deposition that was broad but narrowed at culvert under the road.

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: 33.943826, -116.660012

Characteristics of the floodplain unit:

Average sediment texture: sand

Total veg cover: 25 % Tree: 0 % Shrub: 20 % Herb: 5 %

Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [x] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Poorly defined low flow channel within a much more well defined OHWM.

Project ID: 3210 **Cross section ID:** 1 **Date:** 3/26/2020 **Time:** 08:15

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: 33.943856, -116.659996

Characteristics of the floodplain unit:

Average sediment texture: coarse sand

Total veg cover: 55 % Tree: ____ % Shrub: 50 % Herb: 5 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☒ Drift and/or debris
- ☐ Presence of bed and bank
- ☒ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: ____
- ☐ Other: ____
- ☐ Other: ____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: ____

Characteristics of the floodplain unit:

Average sediment texture: ____

Total veg cover: ____ % Tree: ____ % Shrub: ____ % Herb: ____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: ____
- ☐ Other: ____
- ☐ Other: ____

Comments:

Appendix D

Applicable Regulations

Appendix D
Applicable Regulations

Modern wind turbines are built to a series of established international design standards including seismic and wind loads as listed below:

Nacelle and Hub
IEC 61400-1 Edition 3
EN 50308

Tower
IEC 61400-1 Edition 3
Eurocode 3

Blades
DNV-OS-J102
IEC 1024-1
IEC 60721-2-4
IEC 61400 (Part 1, 12 and 23)
IEC WT 01 IEC
DEFU R25
ISO 2813
DS/EN ISO 12944-2

Gearbox
ISO 81400-4

Generator
IEC 60034

Transformer
IEC 60076-11,
IEC 60076-16,
CENELEC HD637 S1

Lightning Protection
IEC 62305-1: 2006
IEC 62305-3: 2006
IEC 62305-4: 2006
IEC 61400-24:2010

Rotating Electrical Machines
IEC 34

Safety of Machinery, Safety-related Parts of Control Systems
IEC 13849-1

Safety of Machinery – Electrical Equipment of Machines
IEC 60204-1