



# Amendment to the Jurisdictional Wetland Delineation Report

Tule Wind Project  
County of San Diego, CA



**February 2011**

*Prepared for*

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# Amendment to Jurisdictional Wetland Delineation Report Tule Wind Project

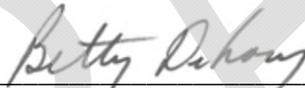
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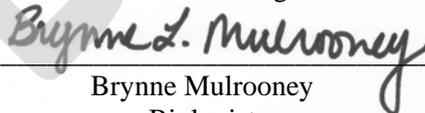
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Ingrid Chlup  
Senior Biologist



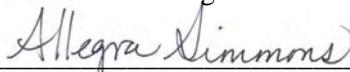
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Associate Biologist



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Brynne Mulrooney  
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## 1.0 INTRODUCTION

Tule Wind, LLC, a wholly owned subsidiary of Iberdrola Renewables' (IRI) is proposing to construct and operate the Tule Wind Project (proposed project) located in the eastern desert region of San Diego County, as shown on **Figure 1**, Region and Vicinity. This amendment to the August 2010 HDR Draft Jurisdictional Delineation Report for the Tule Wind Project has been prepared to incorporate previously inaccessible areas and additional survey areas resulting from modifications to the proposed project as described below.

### 1.1 BACKGROUND

The proposed project is located in eastern San Diego County, California on a combination of lands administered by the Bureau of Land Management (BLM), tribal lands of the Ewiiapaayp Band of Kumeyaay Indians, tribal lands of the Manzanita and Campo Indian Reservations (access only), the California State Lands Commission (CSLC), and private land under the jurisdiction of the County of San Diego (County). As part of the proposed project, Tule Wind, LLC, is requesting right-of-way (ROW) for a term of at least 30 years from the BLM.

The proposed project will consist of: (1) up to 128 wind turbines; (2) access roads between turbines, including improvements to existing roadways and new roadways; (3) a 138 kilovolt (kV) overhead transmission line; (4) a 34.5 kV overhead and underground electrical collector cable system; (5) a 5-acre collector substation site; (6) a 5-acre operation and maintenance site; (7) a temporary 5-acre concrete batch plant site; (8) a temporary 10-acre parking area; (9) 19 two-acre temporary laydown areas; (10) three permanent meteorological towers; (11) a Sonic Detection and Ranging System unit or one light detecting and ranging (LIDAR) unit and (12) a sand and rock quarry (**Figure 2**).

The current layout of the project footprint includes 96 wind turbines located on BLM land, 18 turbines on tribal lands, 7 turbines on State lands, and 7 wind turbines on private parcels.

### 1.2 MODIFIED LAYOUT

Iberdrola Renewables' (IRI) is proposing modifications to portions of the proposed project facilities (**Figures 1 and 2**). These changes are necessitated by several circumstances, primarily updated information regarding sensitive resources or conditions on the ground. The following is a summary of those circumstances below.

A licensed California surveyor recently conducted a land survey of the real property associated with the Tule project to identify monuments and exact property boundaries. These modifications require modifications to some facilities so that they will conform to exact property boundaries.

The SDG&E Sunrise Powerlink Project recently commenced construction. A portion of that project crosses the lands that are also part of the proposed project. One design feature of the primary proposed project transmission line is to parallel the Sunrise line to the extent feasible to reduce environmental impacts. However, the exact location of the Sunrise features are subject to some modifications, which necessarily require modifications to certain features of the proposed project. Additionally, since the environmental review of the proposed project commenced, the Sunrise project leased and constructed a temporary laydown yard of significant size coincident with proposed features of the proposed project. This requires that certain features be modified to account for the occupancy of that land. Because the proposed project is eligible for the Investment Tax Credit by virtue of completing construction before December 12, 2012, and construction of the Sunrise line is not expected to be completed before that date,

features such as access roads and the alternate substation proposed for the area occupied by the Sunrise laydown yard must be relocated.

IRI conducts field verification of proposed wind turbine and access road locations to ensure the proper placement of the wind turbines for optimum meteorological conditions and to accommodate specific topographical constraints. Meteorological data is being compiled on an ongoing basis through the existing meteorological towers (METs) located in various locations throughout the project area. IRI's development team, including meteorologists, permitting managers, civil engineers, and project developers, completed the preliminary field verification process for the proposed project in Fall 2010.

The field verification process takes into consideration numerous factors that include electrical engineering, civil engineering and grading requirements associated with planned access roads and turbines, avoidance of cultural resource sites, and avoidance and minimization of impacts to sensitive biological resources. Based on the results of this field verification, some project design modifications are implicated. Project design modifications reflect civil engineering and grading necessary to accommodate the highly variable topography in the project area, avoidance of cultural sites, and avoidance of sensitive biological resources.

The exact route of the primary transmission route for the proposed project has been refined. Landowner negotiations and the availability of the County ROW allow modifications to the exact path of the line, though the general route remains unchanged.

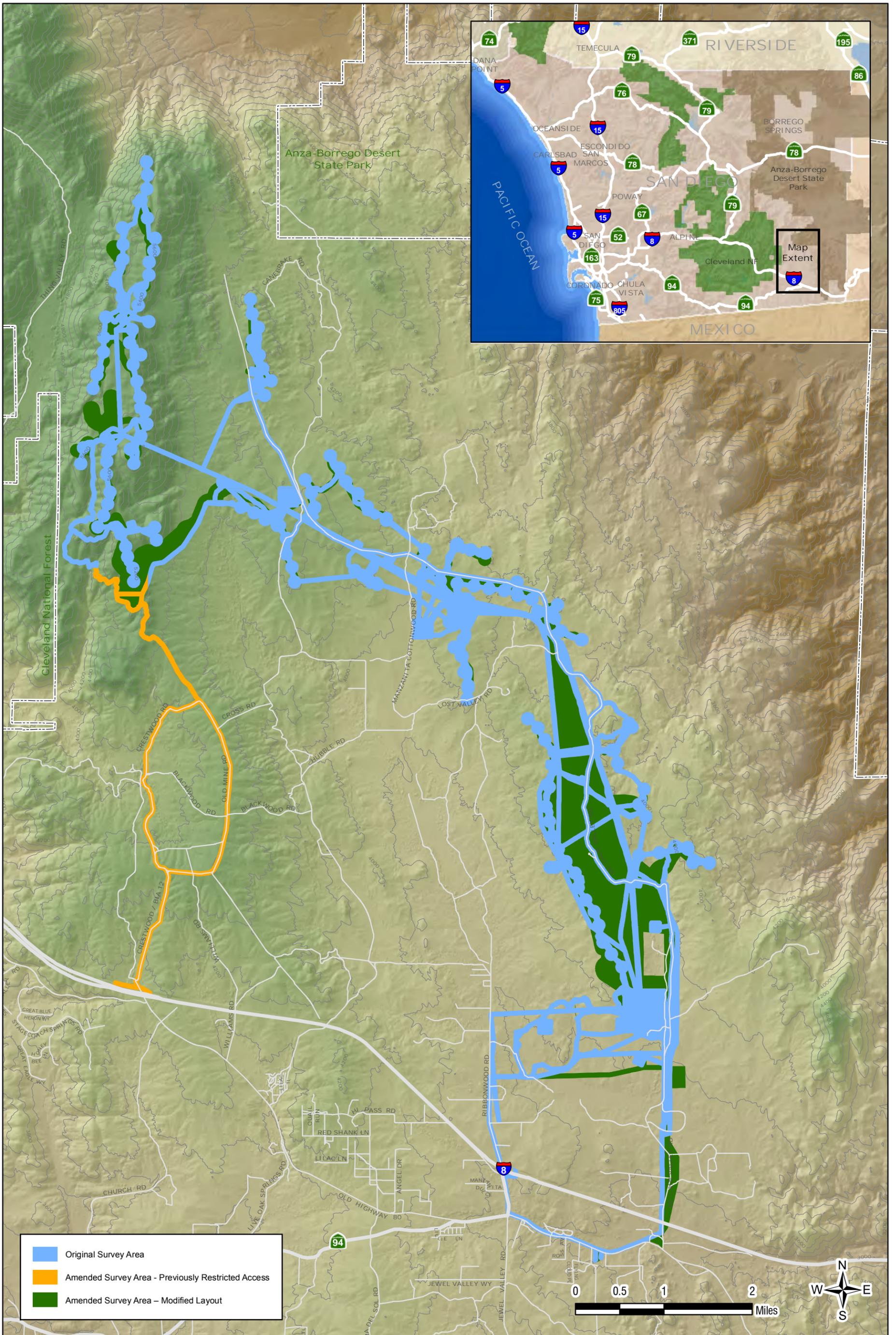
In anticipation of such project design modifications, IRI conducted additional cultural and biological resources surveys on lands that may be impacted by relocated wind turbines, access roads, and resource avoidance. **Figure 1** identifies the additional land area surveyed for biological resources.

As described in the Draft EIR/EIS, the proposed project (including anticipated modifications) will be constructed and operated to avoid impacts to sensitive biological resources. Taking a conservative approach, IRI surveyed a larger area than is needed in an effort to encompass all land area that could potentially be affected by project modifications (e.g., wind turbine and/or access roads). As compared to the proposed project, the modified project design (based on the new surveys) demonstrates that no new significant impacts or changes to the mitigation identified in the Draft EIR/EIS are anticipated to occur as a result of the modified project design.

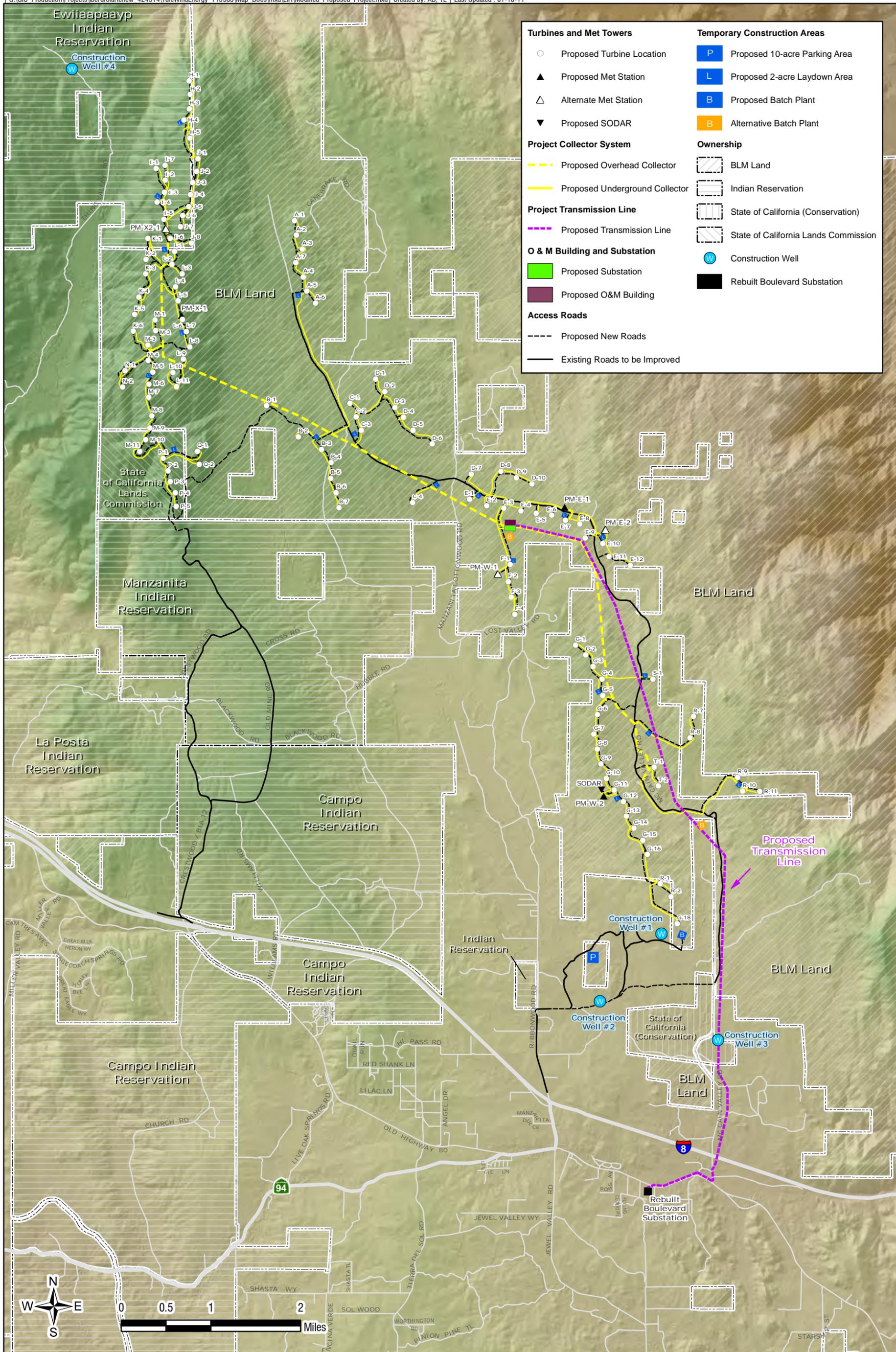
### 1.2.1 Existing Conditions

Previously restricted areas addressed in this Jurisdictional Wetland Delineation Report (JWDR) include access corridors along existing roads on the Campo and Manzanita Reservations and private parcels adjacent to the extreme southern segment of McCain Valley Road and Old Highway 80. The Modified Layout consists of a revised version of the original layout located within McCain Valley and on the ridges that comprise the valley's western border (**Figure 2**).

Within the areas addressed in this JWDR, elevation ranges from about 3251 feet (991 meters) above mean sea level along Old Highway 80 to about 5807 feet (1770 meters) along the ridge in the northwestern portion of the survey corridor. The existing conditions, regional context, and land use within the project area are described in the *Tule Wind Project BTR*.









The amended survey area occurs primarily within undeveloped land. On-site soils are well drained and are generally located on alluvial fans, or were formed in material weathered from granitic rock. No new soil units occur within the amended survey area. On-site vegetation is a result of a Mediterranean-type climate characterized by long, hot, dry summers and mild winters. No new vegetation communities occur within the amended project area. Soil and vegetation community descriptions are located in the *Tule Wind Project BTR*.

The project site is located within the Salton Sea and Tijuana River watersheds. Several blue-line streams transect the project site and are identified on the following United States Geologic Survey Quadrangles: Live Oak Springs, Jacumba, Sombrero Peak, and Mount Laguna.

## 2.0 METHODS

Field surveys of the amended survey areas were conducted by HDR biologists Allegra Simmons, Brynne Mulrooney, Scot Chandler, and Ingrid Chlup over a period of five weeks between October 4, 2010 and November 18, 2010. Weather conditions during delineation fieldwork were conducive for surveying with generally clear skies. Temperatures ranged from 44 degrees to 79 degrees Fahrenheit and winds ranged from 0-15 mph. Individual survey dates, times, and conditions are located in Appendix A.

Survey methods for the delineation of federal, state, and County Resource Protection Ordinance (RPO) jurisdictional areas were conducted in accordance with those identified in **Section 4.0 Methods** of the *Draft Jurisdictional Wetland Delineation Report*. However, unlike the original survey area, wetlands were encountered in the amended project area and required that surveyors conduct soil test pits. Test pits were established, as recommended and in accordance with the Unified Federal Method for Wetland Delineation (USACE 1987), to measure and assess these wetland indicators. The delineation followed protocol requiring the use of the recently instated Regional Supplement to the USACE Wetland Delineation Manual: Arid West (USACE 2008c). Once jurisdictional boundaries were established, changes in topography, vegetation, and soil texture were used to identify a linear boundary. Delineation field forms are located in Appendix B.

## 3.0 RESULTS

The original delineation survey identified Waters of the U.S. (USACE), Waters of the State (CDFG and RWQCB) and County RPO wetlands. No federal wetlands were identified at that time. All jurisdictional areas occurring within the original survey area are ephemeral. The amended survey area supports Waters of the U.S., including wetlands, Waters of the State, and County RPO wetlands. New acreage to totals are summarized in **Table 1**. Jurisdictional boundaries mapped within the amended survey area are discussed below and the discussion is arranged by agency. Jurisdictional areas are identified in **Figure 3**, Maps 1 through 40 and detailed characteristics for each drainage are included in Appendix C. Representative photographs of drainages located within the survey area are located in Appendix D and a list of additional botanical species identified within the drainages within the amended survey area is included in **Appendix E**.

### 3.1 U.S. ARMY CORPS OF ENGINEERS AND REGIONAL WATER QUALITY CONTROL BOARD JURISDICTIONAL AREAS

On-site drainages are primarily ephemeral and discharge only during and immediately following storm events with the exception of Drainages 207b-c, 208, and 209, which exhibit perennial flows. Evidence of ordinary high water mark (OHWM) was indicated by sediment deposits, shelving, destruction of terrestrial vegetation, and a change in substrate. USACE wetlands occur in Drainages 200a, 207b-c, 209, and 224f (**Figure 3**, Maps 25, 26, and 28). A brief summary of the perennial waters of the U.S. and wetlands is as follows:

**Drainage 200a:** Drainage 200a is a 30-foot wide seasonal pond draining from an upstream drainage (off-site) and draining to Drainage 200b. The dominant hydrophytic vegetation included salt heliotrope (*Heliotropium curassavicum*), toad rush (*Juncus bufonius*), and common purslane (*Portulaca oleracea*). Hydric soil was indicated by a redox dark surface, and hydrology was indicated through surface soil cracks.

**Drainage 207b-c:** Drainage 207b-c is a perennial/intermittent wetland with standing water in the lower reach of the wetland. It is drained from Drainage 207a and drains to Drainage 207d. The dominant hydrophytic vegetation included yerba mansa, Mexican rush, willow herb and watercress (*Rorripa nasturtium aquaticum*). Based upon conversations with a local resident, soils met hydric soils criteria based upon ponding for long duration during the growing season. Inundation and saturation to the surface was observed.

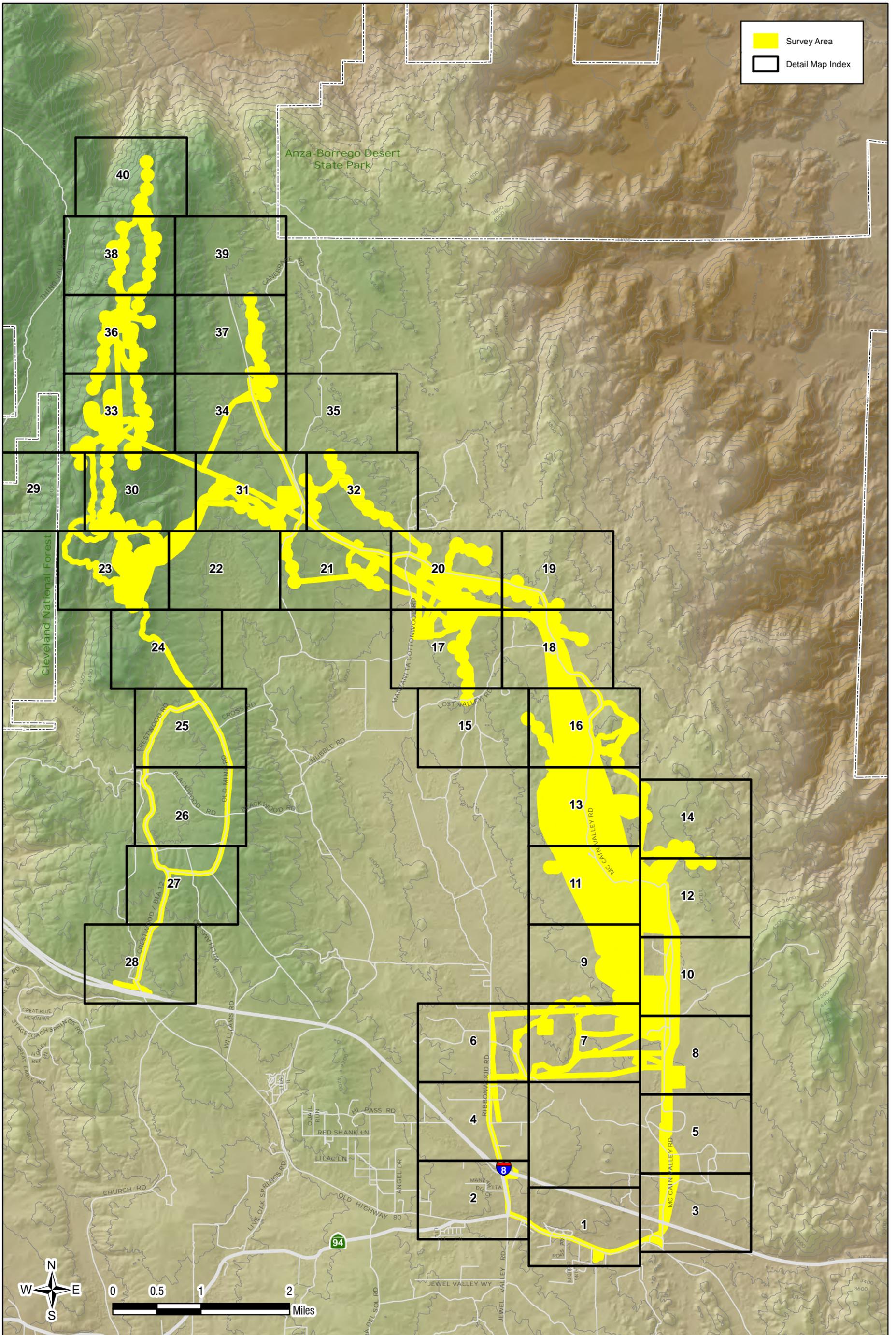
**Drainage 208:** Drainage 208 is a perennial seep tributary to Drainage 207. The channel exhibits a sandy bed and is generally unvegetated.

**Drainage 209:** Drainage 209 is a perennial seep tributary to Drainage 207. Dominant vegetation includes watercress, willow herb and Mexican rush.

**Drainage 224f:** Drainage 224f is an ephemeral wetland in the downstream reach of Drainage 224. The dominant hydrophytic vegetation included seep monkey flower (*Mimulus guttatus*) and horseweed (*Conyza canadensis*). Based upon conversations with a local resident, soils met hydric soils criteria based upon ponding for long duration during the growing season. Inundation and saturation to the surface was observed.

Wetland determination field forms are summarized below and included in **Appendix B**. A table of all drainages mapped within the amended survey area is included in **Appendix C** and representative drainage photographs are located in **Appendix D**. Waters of the U.S., including wetlands occur within the survey area and are summarized in **Table 1**.

The RWQCB jurisdiction is equivalent to that of the USACE since there are no isolated waters within the survey area. Waters of the State under the jurisdiction of the RWQCB occur within the survey area and are summarized in **Table 1**.





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**Legend**

- Survey Area
- Ownership Boundary
- Impacts**
  - Permanent Impacts
  - Temporary Impacts
- Jurisdiction**
  - CDFG only
  - CDFG and USACE
  - USACE only (Tribal Lands)
  - USACE Wetland
  - Soil Pit

**Scale and Orientation**

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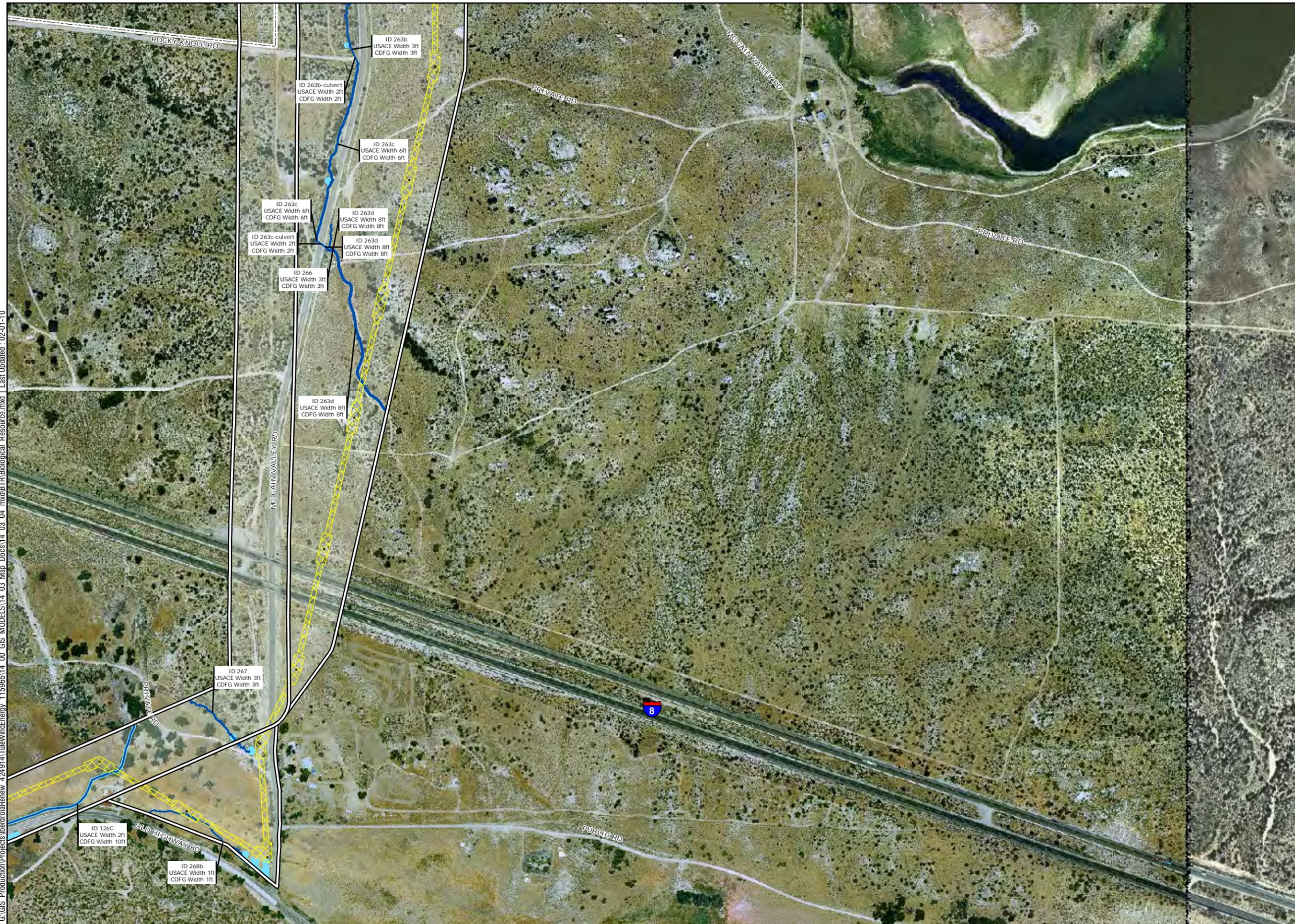
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  - USACE Wetland
  - Soil Pit

**Scale and Orientation**

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  - Temporary Impacts
- Jurisdiction**
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  - USACE Wetland
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North Arrow

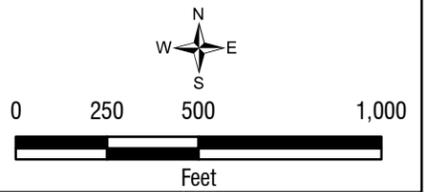
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- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
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- CDFG and USACE
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- USACE Wetland
- Soil Pit

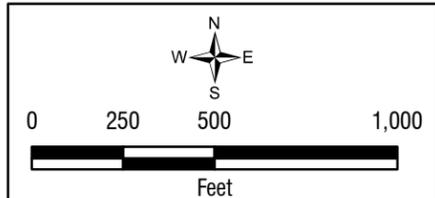
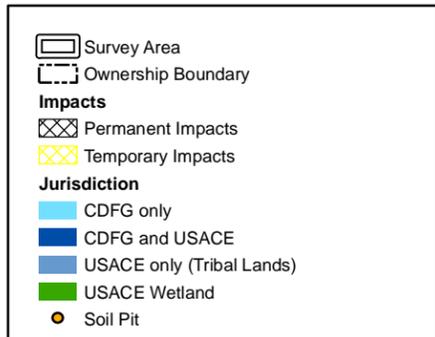
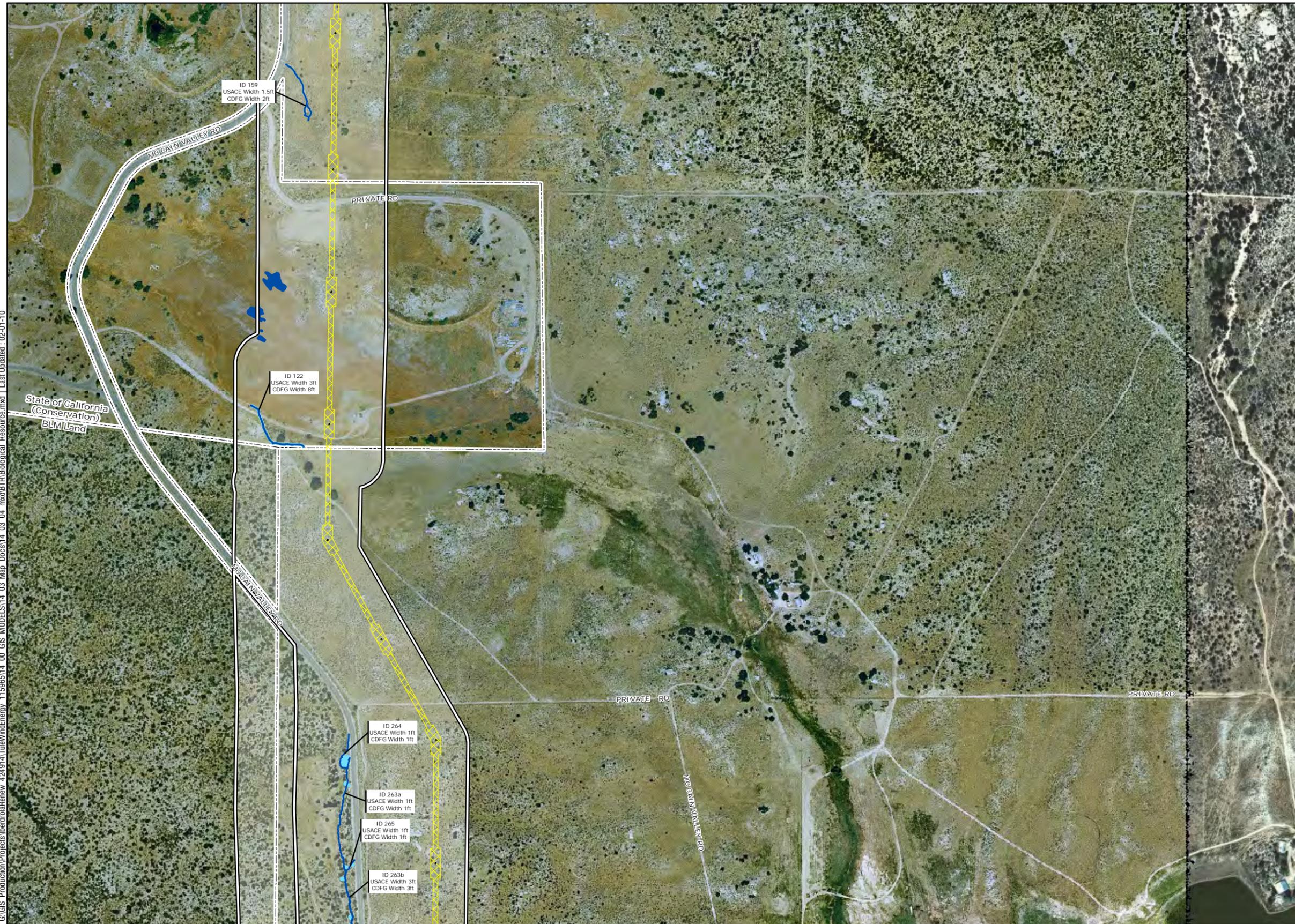


Jurisdictional Delineation Maps (Index Map 4)

Figure 3



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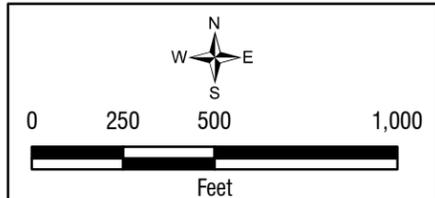




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- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
- CDFG only
- CDFG and USACE
- USACE only (Tribal Lands)
- USACE Wetland
- Soil Pit



Jurisdictional Delineation Maps (Index Map 6)

Figure 3



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Survey Area  
 Ownership Boundary  
**Impacts**  
 Permanent Impacts  
 Temporary Impacts  
**Jurisdiction**  
 CDFG only  
 CDFG and USACE  
 USACE only (Tribal Lands)  
 USACE Wetland  
 Soil Pit

0 250 500 1,000  
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**Legend**

- Survey Area
- Ownership Boundary
- Impacts**
  - Permanent Impacts
  - Temporary Impacts
- Jurisdiction**
  - CDFG only
  - CDFG and USACE
  - USACE only (Tribal Lands)
  - USACE Wetland
  - Soil Pit

**Scale and Orientation**

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**Legend**

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Jurisdictional Delineation Maps (Index Map 9)

Figure 3



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**Scale and Orientation**

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**Ownership Boundary**  
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**Impacts**  
[Black cross-hatch] Permanent Impacts  
[Yellow cross-hatch] Temporary Impacts

**Jurisdiction**  
[Light blue] CDFG only  
[Dark blue] CDFG and USACE  
[Green] USACE only (Tribal Lands)  
[Dark green] USACE Wetland  
[Yellow circle] Soil Pit

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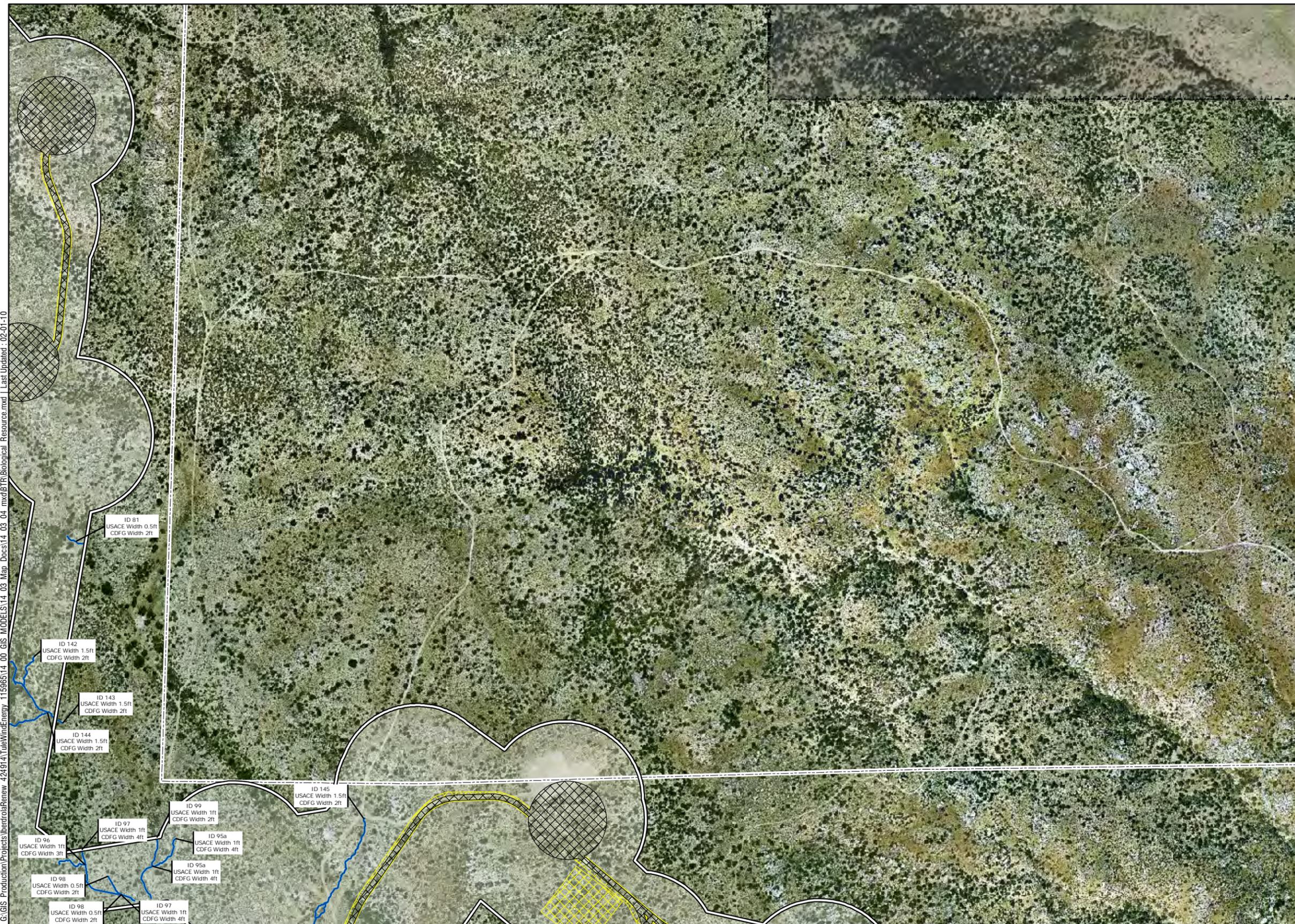
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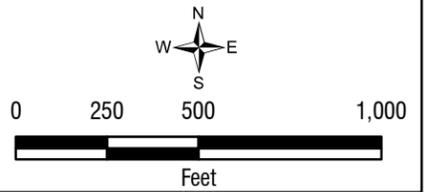
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Scale and Orientation

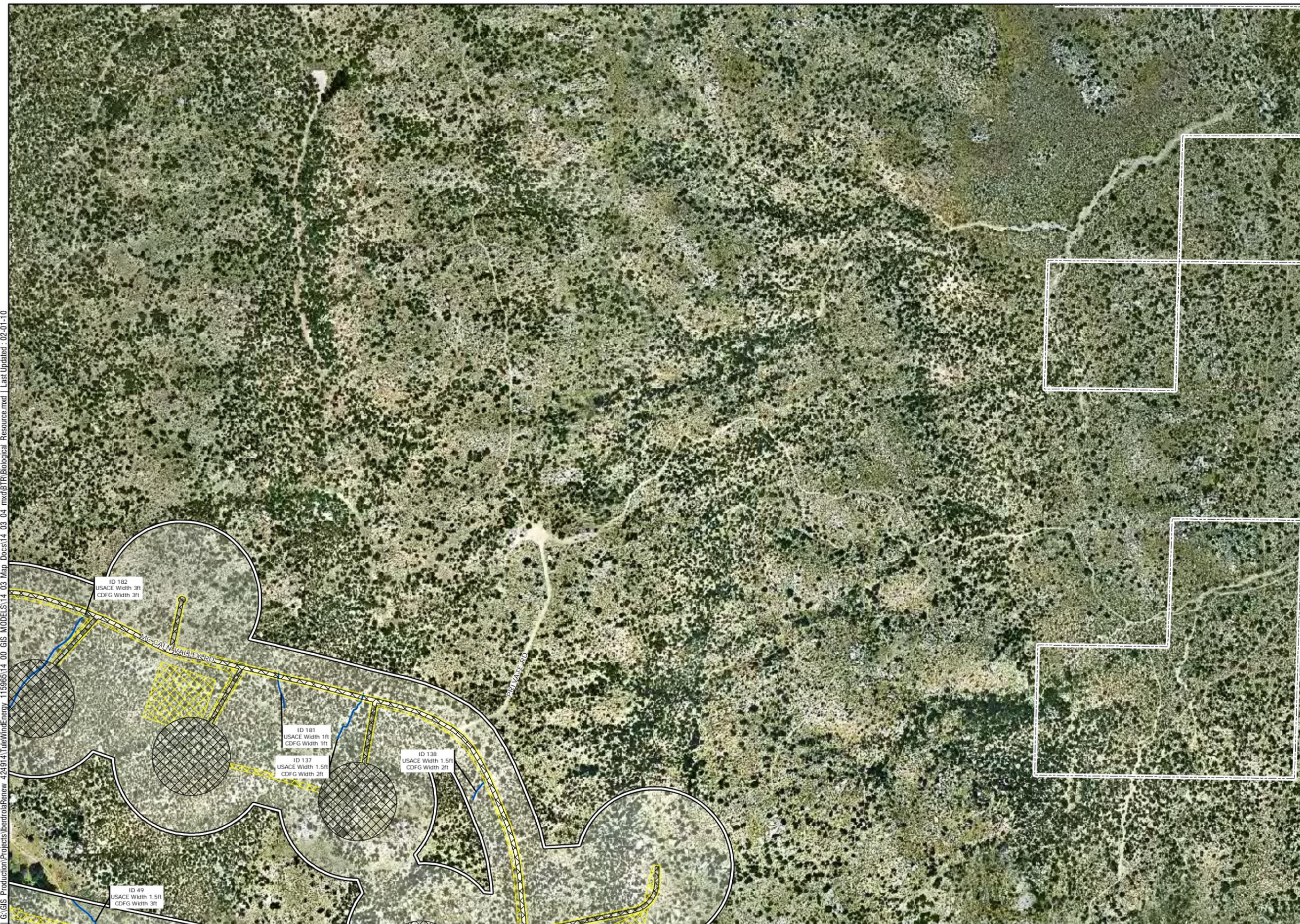
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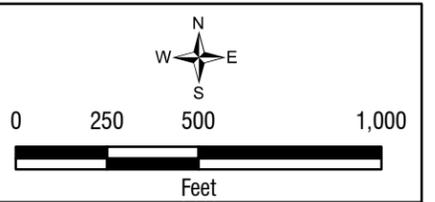




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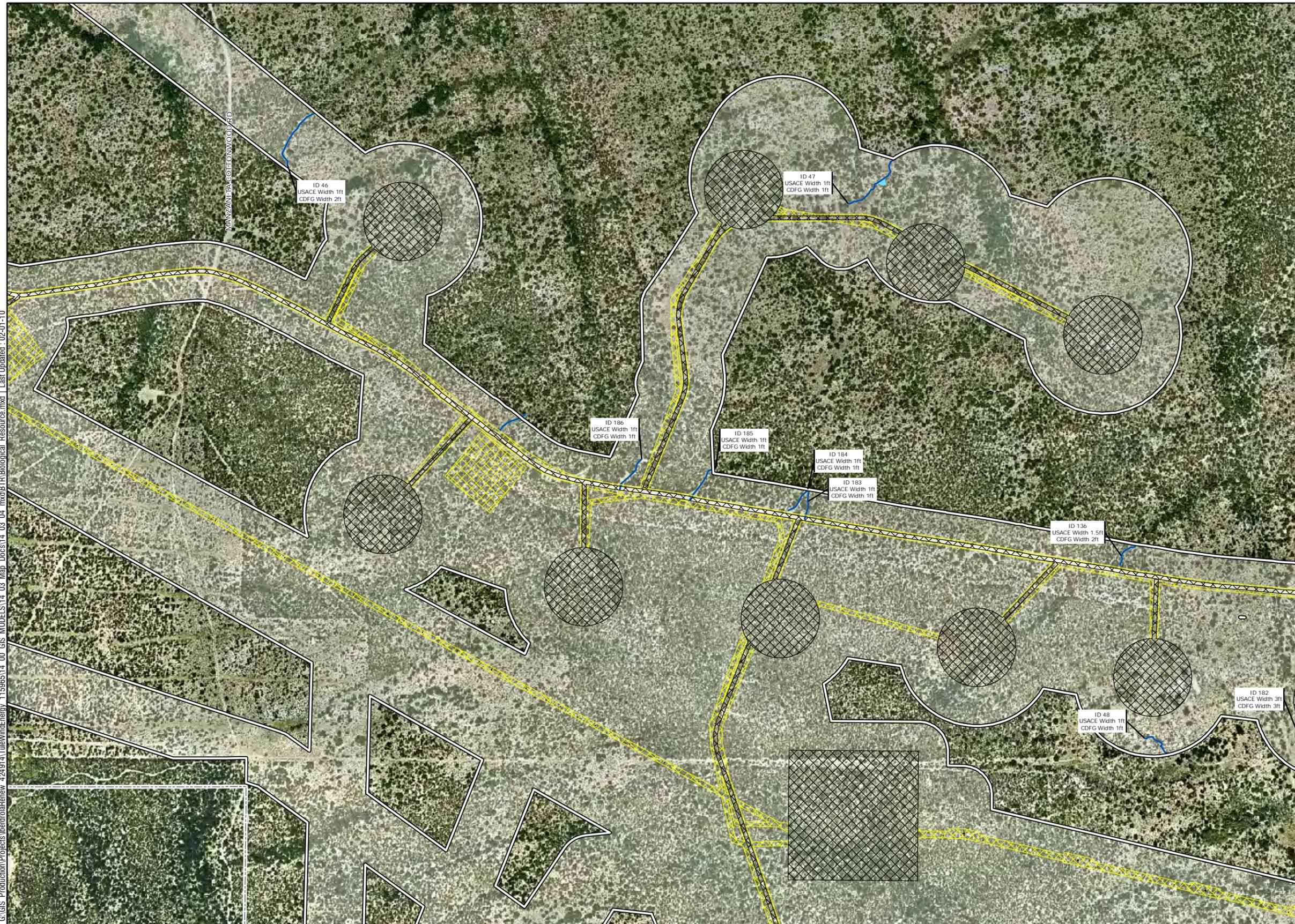


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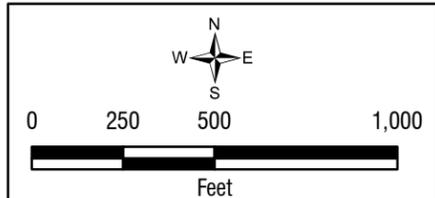




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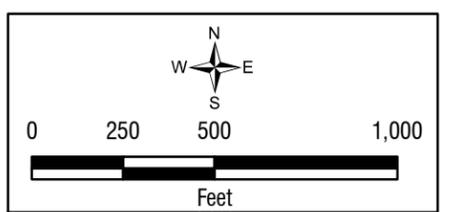




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 USACE Wetland  
 Soil Pit



Jurisdictional Delineation Maps (Index Map 21)

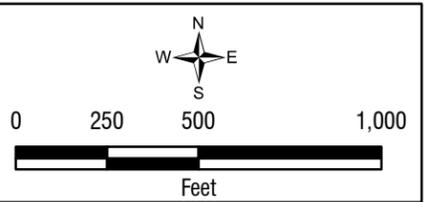
Figure 3



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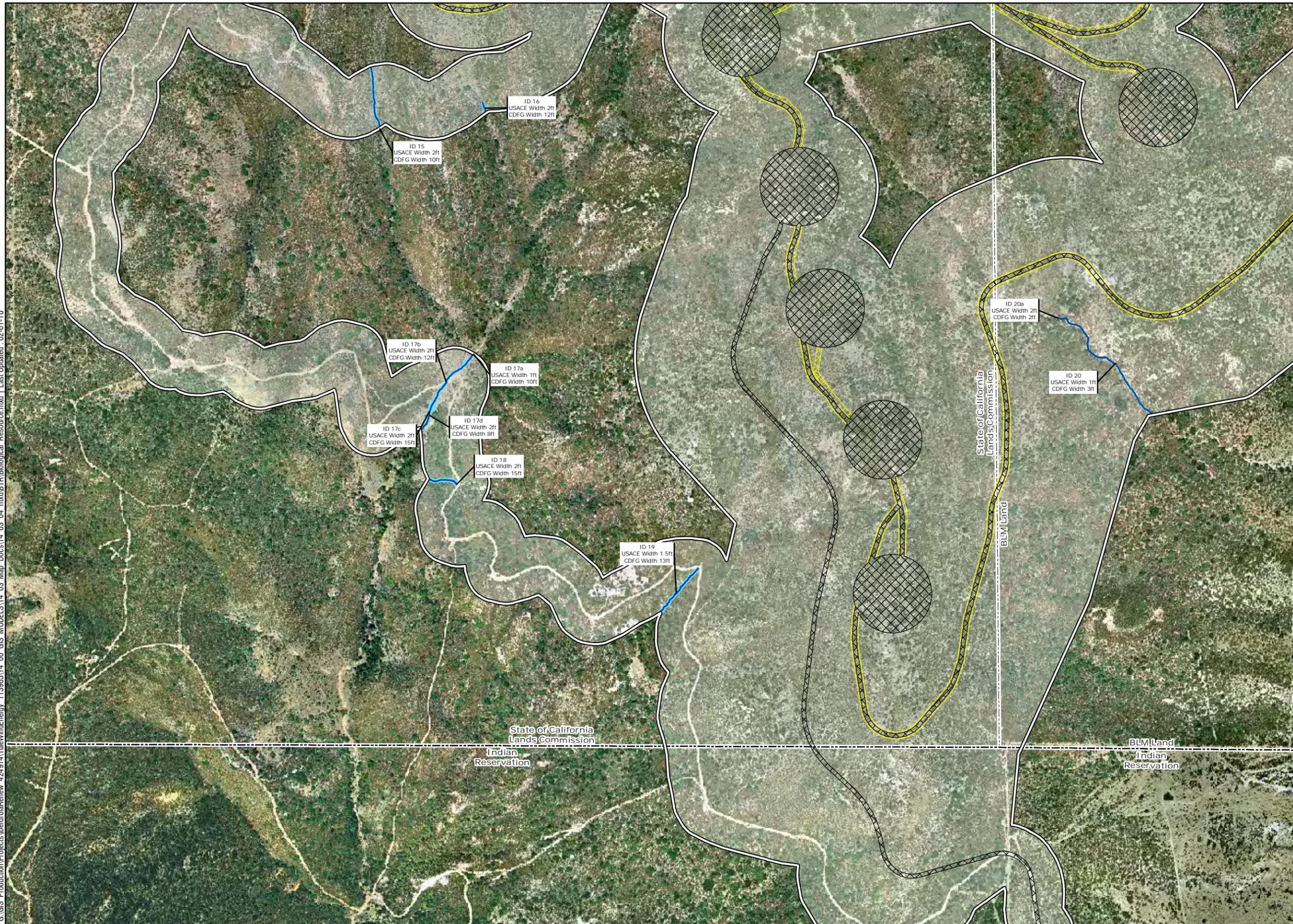


- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
- CDFG only
- CDFG and USACE
- USACE only (Tribal Lands)
- USACE Wetland
- Soil Pit





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**Legend**

- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
- CDFG only
- CDFG and USACE
- USACE only (Tribal Lands)
- USACE Wetland
- Soil Pit

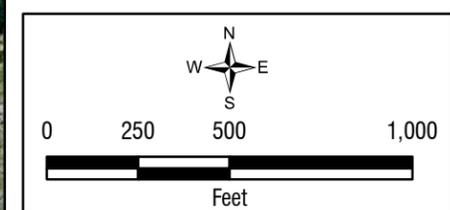
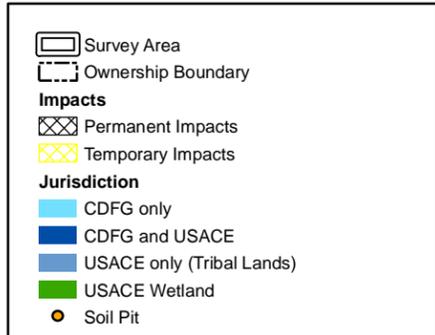
North Arrow

0 250 500 1,000

Feet

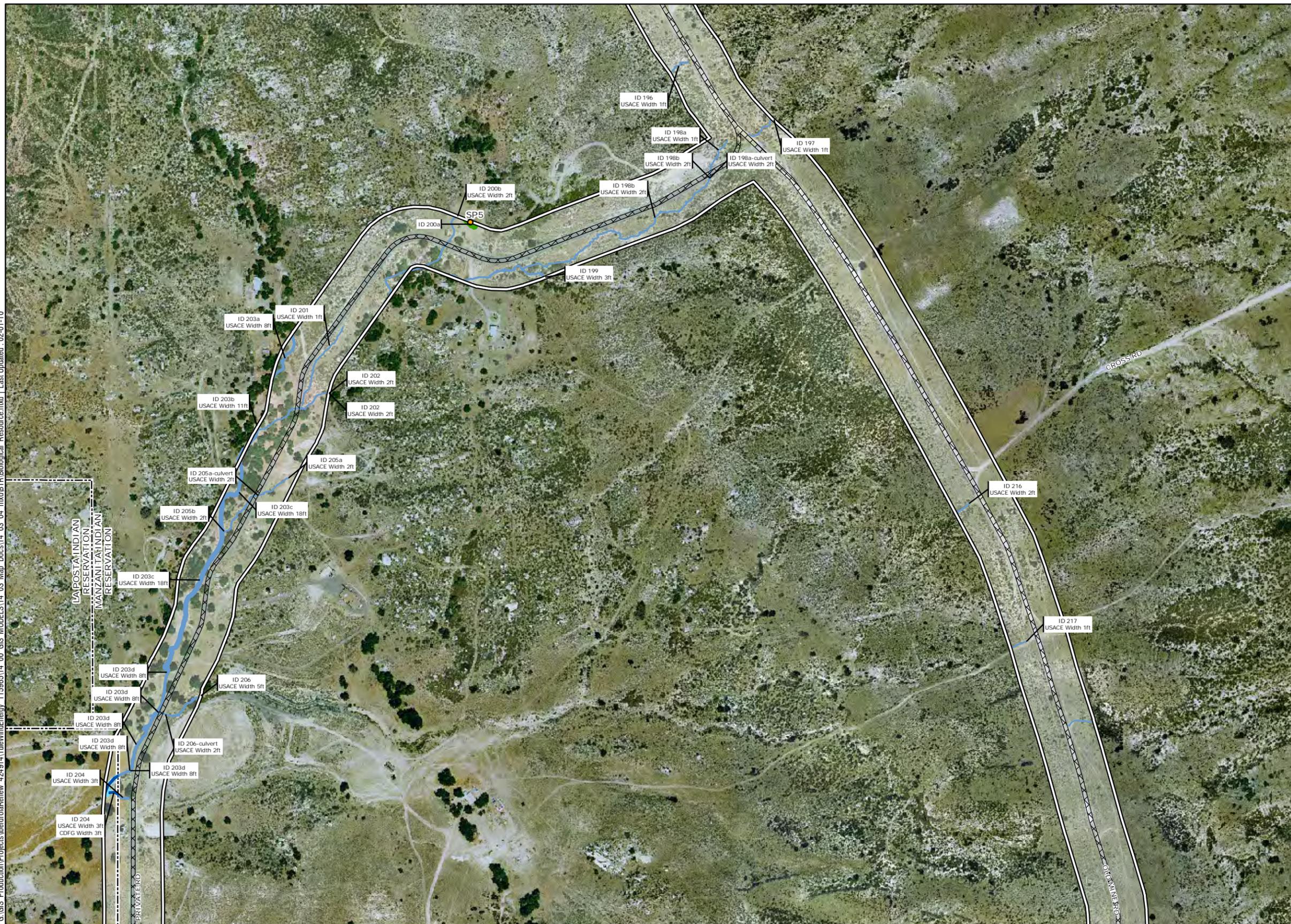


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**Legend**

- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
- CDFG only
- CDFG and USACE
- USACE only (Tribal Lands)
- USACE Wetland
- Soil Pit

**Scale and Orientation**

0 250 500 1,000  
Feet

N  
W E  
S

Jurisdictional Delineation Maps (Index Map 25)

Figure 3



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**Legend**

- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
- CDFG only
- CDFG and USACE
- USACE only (Tribal Lands)
- USACE Wetland
- Soil Pit

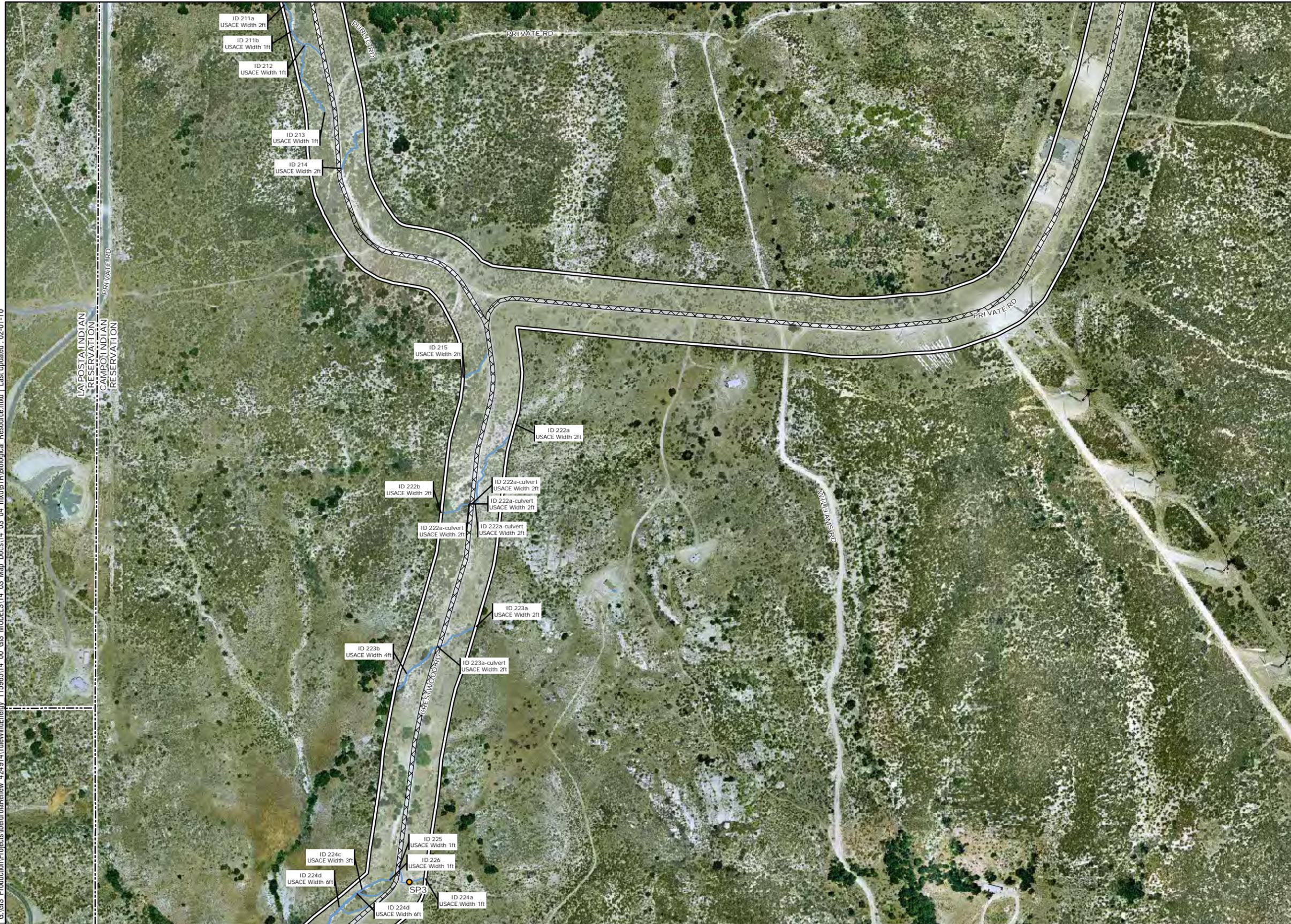
**Scale and Orientation**

0 250 500 1,000  
Feet

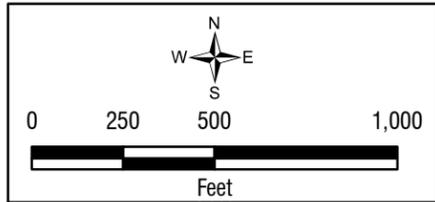
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W E  
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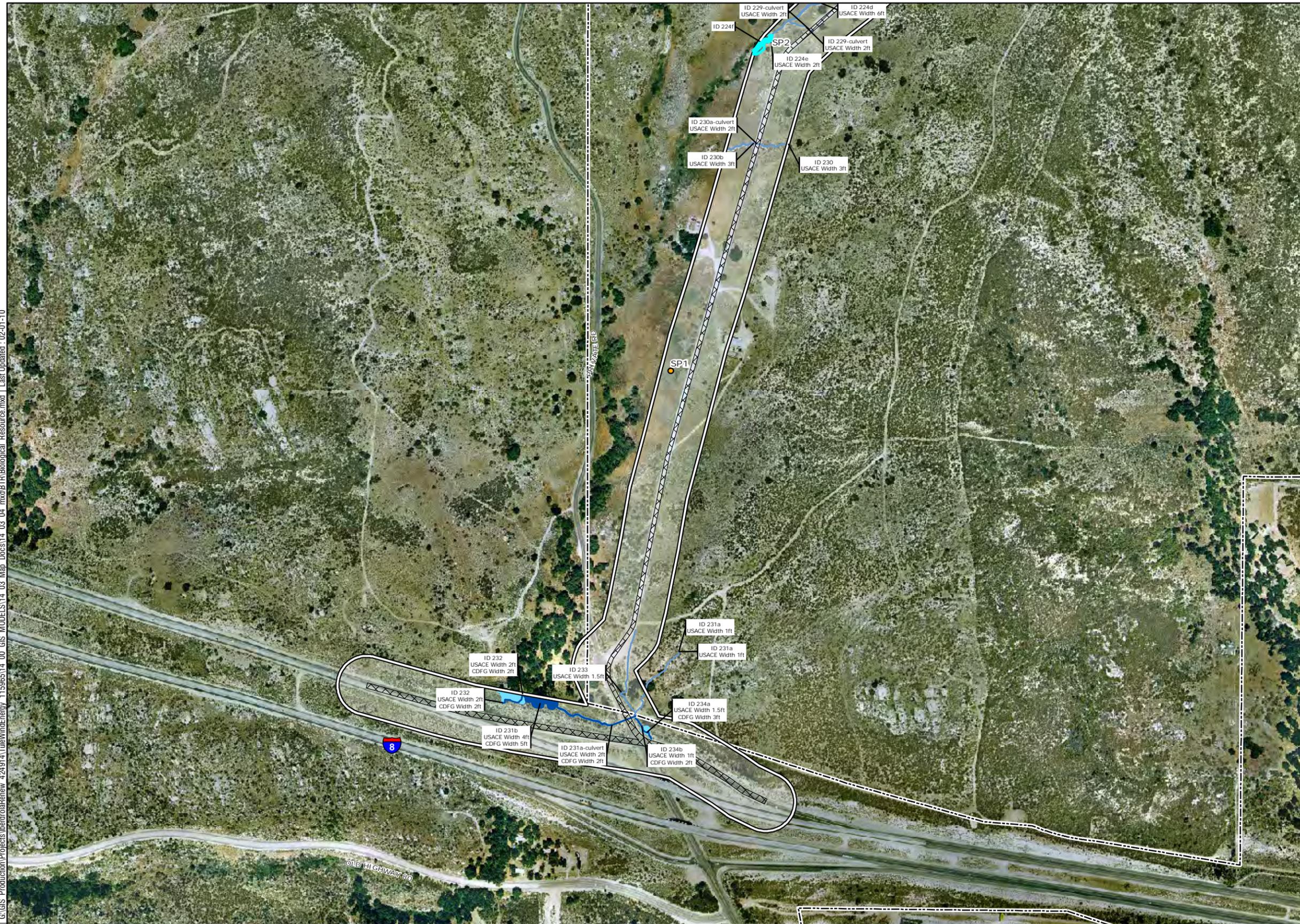


- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
- CDFG only
- CDFG and USACE
- USACE only (Tribal Lands)
- USACE Wetland
- Soil Pit





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Legend

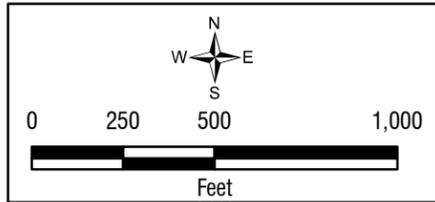
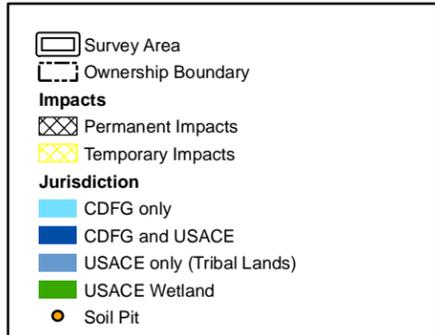
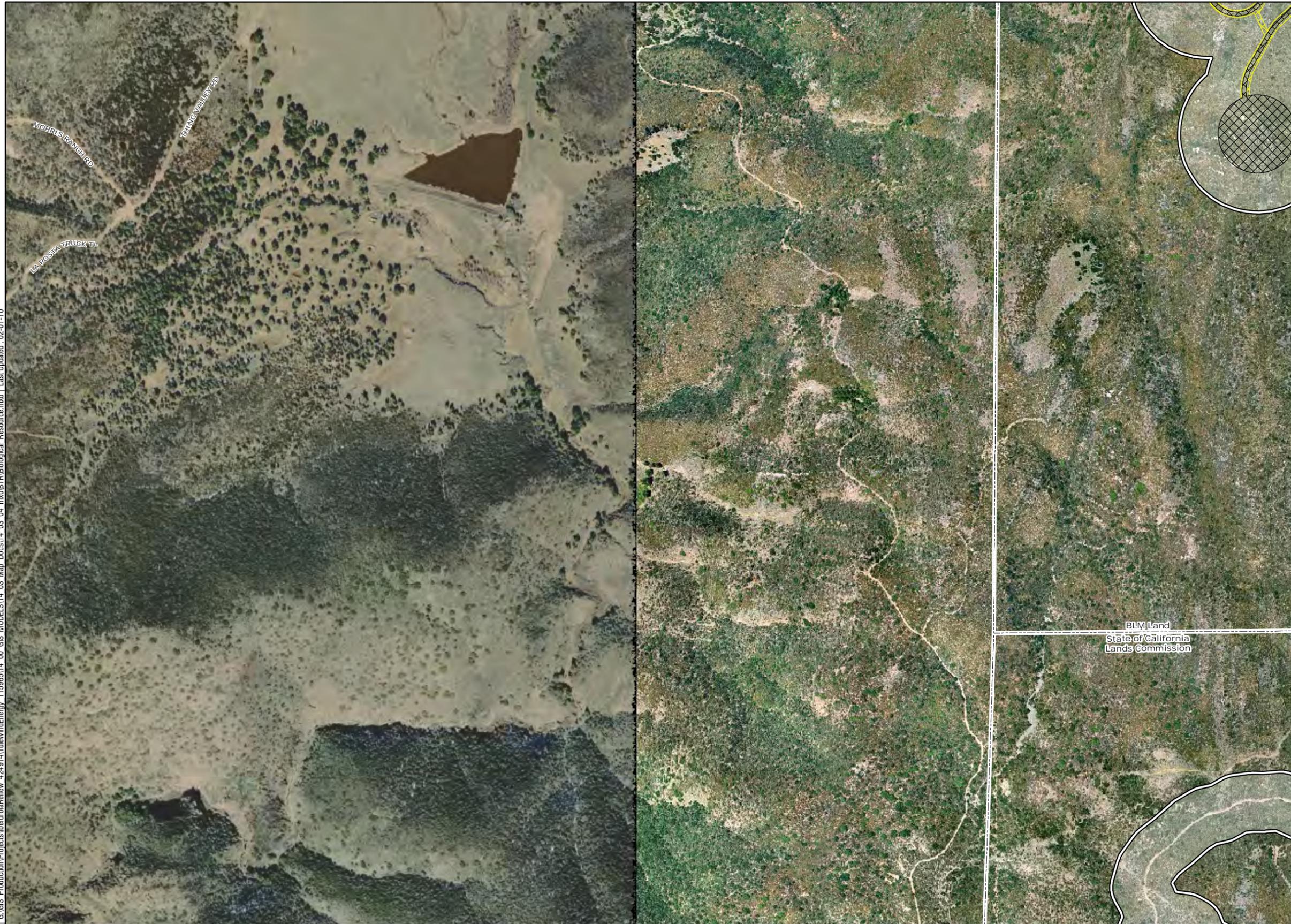
- Survey Area
- Ownership Boundary
- Impacts
  - Permanent Impacts
  - Temporary Impacts
- Jurisdiction
  - CDFG only
  - CDFG and USACE
  - USACE only (Tribal Lands)
  - USACE Wetland
- Soil Pit

North Arrow

Scale: 0, 250, 500, 1,000 Feet



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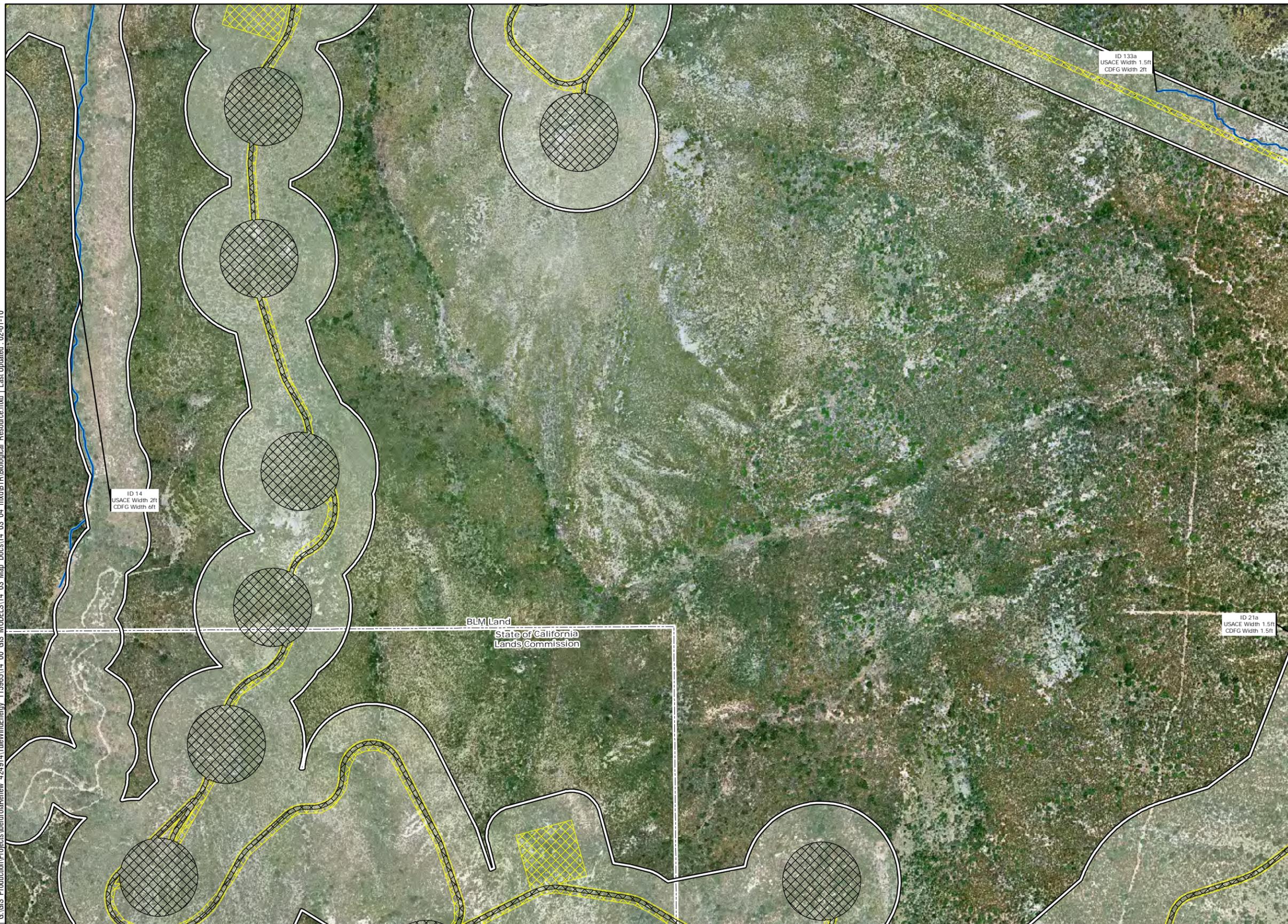


Jurisdictional Delineation Maps (Index Map 29)

Figure 3



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Survey Area  
 Ownership Boundary  
**Impacts**  
 Permanent Impacts  
 Temporary Impacts  
**Jurisdiction**  
 CDFG only  
 CDFG and USACE  
 USACE only (Tribal Lands)  
 USACE Wetland  
 Soil Pit

0 250 500 1,000  
 Feet



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**Legend**

- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
- CDFG only
- CDFG and USACE
- USACE only (Tribal Lands)
- USACE Wetland
- Soil Pit

**Scale and Orientation**

0 250 500 1,000  
Feet

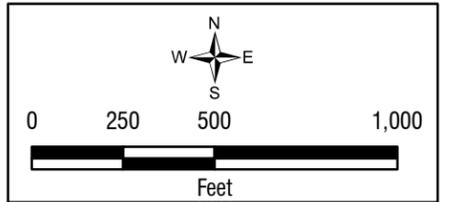
Jurisdictional Delineation Maps (Index Map 31)  
Figure 3  
Tule, LLC | Tule Wind Project | JWA



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- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
- CDFG only
- CDFG and USACE
- USACE only (Tribal Lands)
- USACE Wetland
- Soil Pit

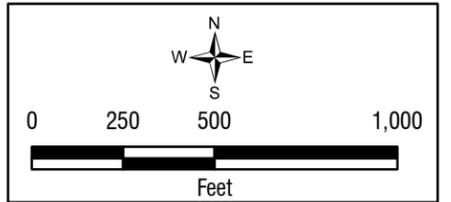




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- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
- CDFG only
- CDFG and USACE
- USACE only (Tribal Lands)
- USACE Wetland
- Soil Pit



Jurisdictional Delineation Maps (Index Map 33)

Figure 3





Legend

- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
- CDFG only
- CDFG and USACE
- USACE only (Tribal Lands)
- USACE Wetland
- Soil Pit

North Arrow

0 250 500 1,000

Feet

Jurisdictional Delineation Maps (Index Map 34)

Figure 3



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Legend

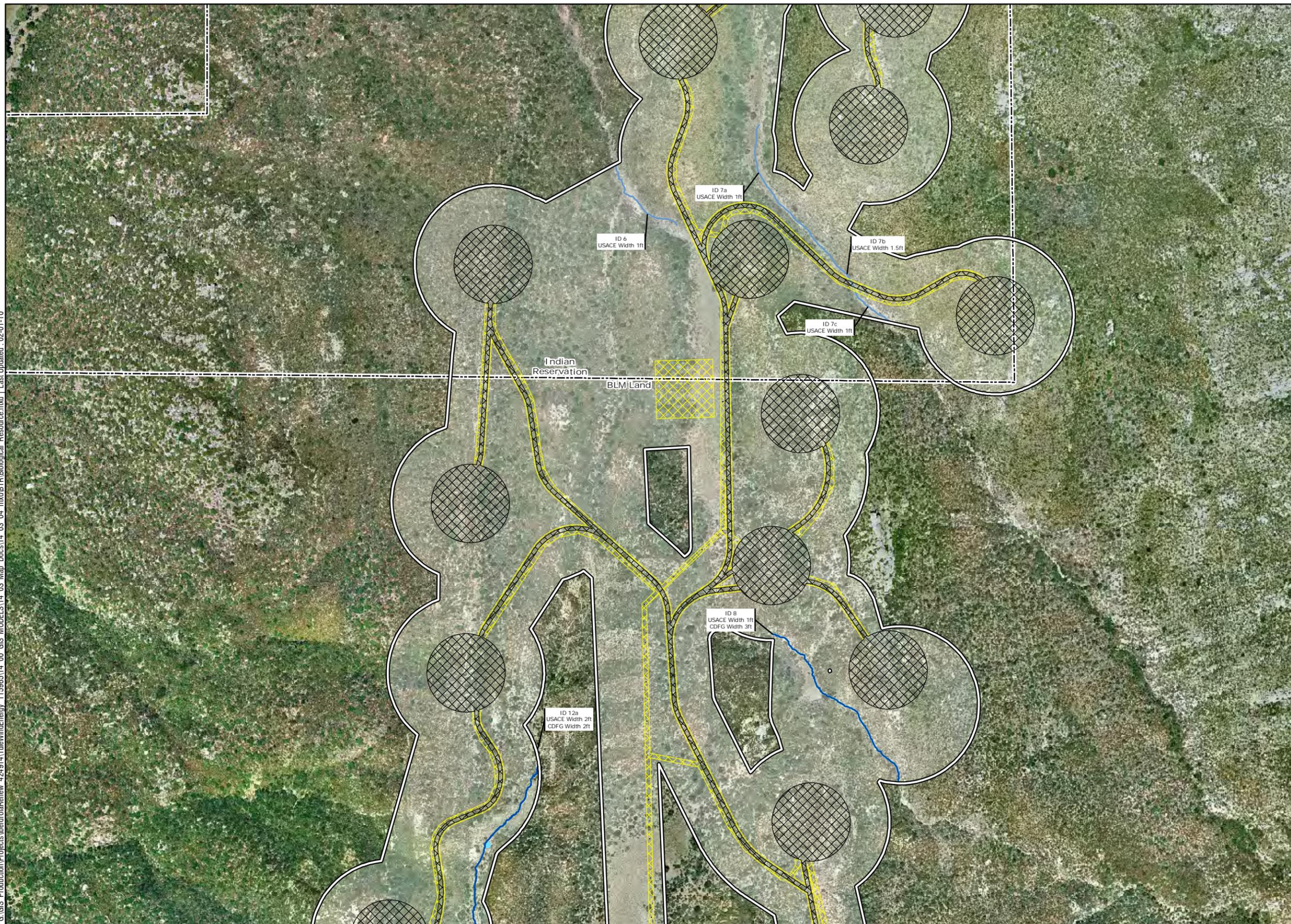
- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
- CDFG only
- CDFG and USACE
- USACE only (Tribal Lands)
- USACE Wetland
- Soil Pit

Scale and Orientation

0 250 500 1,000  
Feet



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Legend

- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
- CDFG only
- CDFG and USACE
- USACE only (Tribal Lands)
- USACE Wetland
- Soil Pit

North Arrow

0 250 500 1,000

Feet

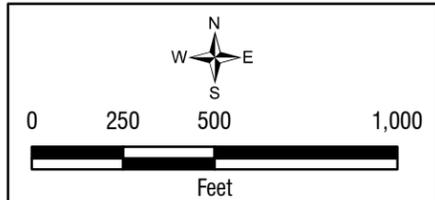


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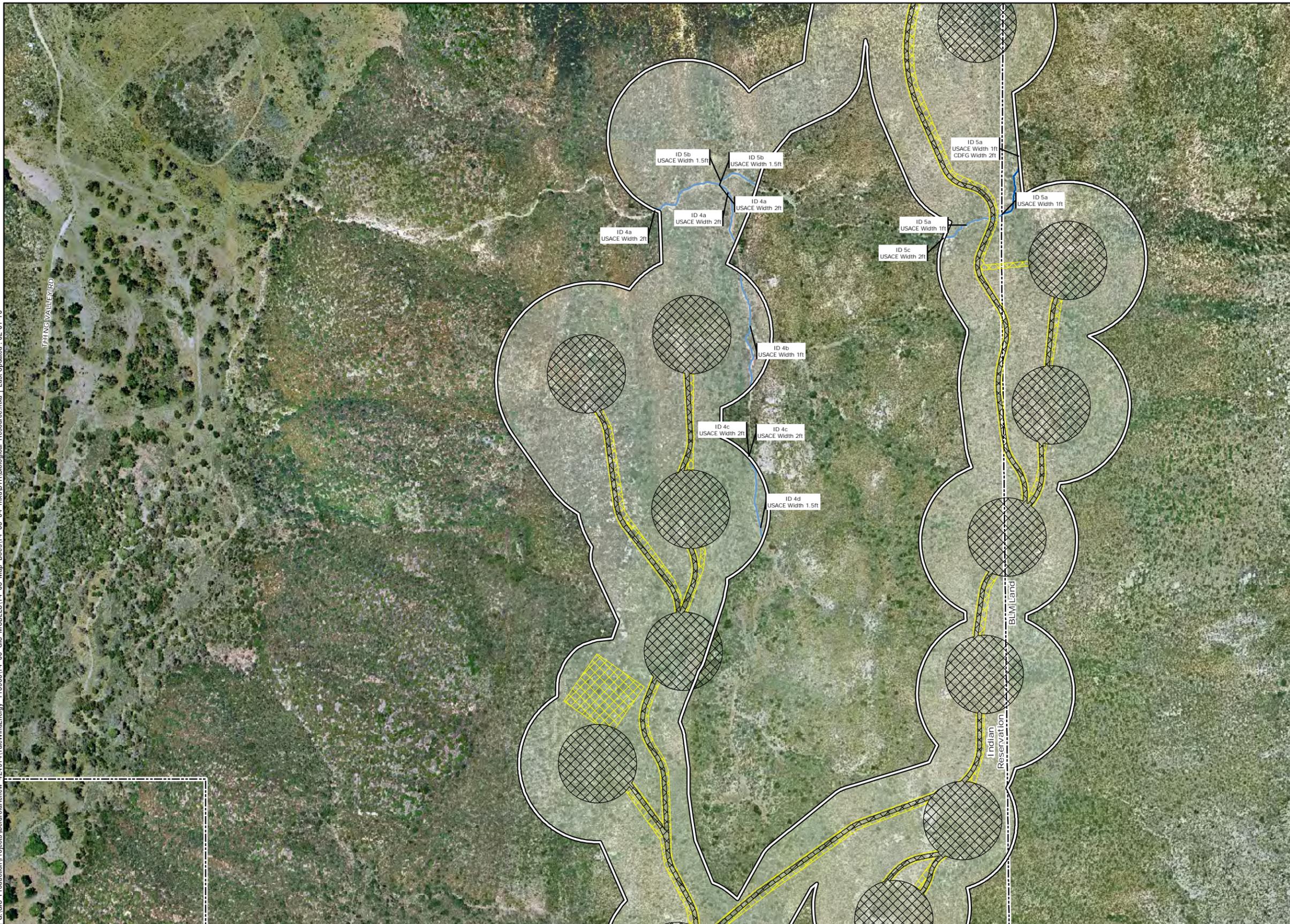
Legend

- Survey Area
- Ownership Boundary
- Impacts**
  - Permanent Impacts
  - Temporary Impacts
- Jurisdiction**
  - CDFG only
  - CDFG and USACE
  - USACE only (Tribal Lands)
  - USACE Wetland
  - Soil Pit

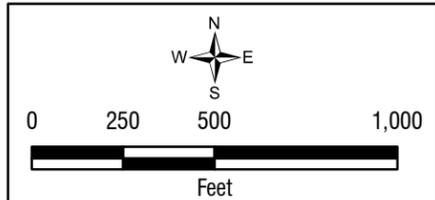




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Survey Area  
 Ownership Boundary  
**Impacts**  
 Permanent Impacts  
 Temporary Impacts  
**Jurisdiction**  
 CDFG only  
 CDFG and USACE  
 USACE only (Tribal Lands)  
 USACE Wetland  
 Soil Pit



Jurisdictional Delineation Maps (Index Map 38)

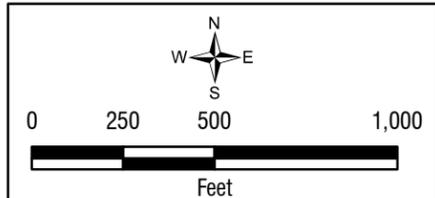
Figure 3



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- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
- CDFG only
- CDFG and USACE
- USACE only (Tribal Lands)
- USACE Wetland
- Soil Pit

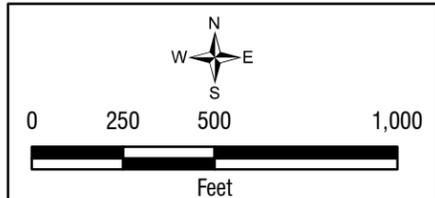




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- Survey Area
- Ownership Boundary
- Impacts**
- Permanent Impacts
- Temporary Impacts
- Jurisdiction**
- CDFG only
- CDFG and USACE
- USACE only (Tribal Lands)
- USACE Wetland
- Soil Pit



Jurisdictional Delineation Maps (Index Map 40)

Figure 3



**Table 1. Jurisdictional Areas Located within the Survey Area  
(Original and Amended Survey Areas Combined)**

Land Ownership	USACE Wetlands	Total USACE Waters of the U.S. (Including Wetlands)	RWQCB Waters of the State	CDFG Jurisdictional Areas	County RPO Wetlands <sup>1</sup>
BLM	-	6.52	6.52	12.10	-
State	-	0.35	0.35	0.82	-
County/Private	-	3.46	3.46	11.72	3.46
Campo Reservation	0.03	0.28	0.28	-	-
Manzanita Reservation	0.40	1.22	1.22	-	-
Ewiiapaayp Reservation	-	0.16	0.16	-	-
<b>Total</b>	<b>0.43</b>	<b>11.99</b>	<b>11.99</b>	<b>24.64</b>	<b>3.46</b>

<sup>1</sup> The various jurisdictional areas overlap with each other.

The following is a summary of soil test pits dug within the amended survey area.

#### **Soil Pit 1**

Soil Pit 1 (SP1) is located on an upland terrace adjacent to a private road within the Campo Indian Reservation (**Figure 3**, Map 28). Hydrophytic vegetation is dominant at SP1 and includes: field sedge (*Carex praegracilis*) (FACW), golden yarrow (*Eriophyllum confertiflorum*) (FACU), prickly lettuce (*Lactuca serriola*) (FAC), bull thistle (*Cirsium vulgare*) (FACU), stinging nettle (*Urtica dioica*) (FACW), curly dock (*Rumex crispus*) (FACW), and western ragweed (*Ambrosia psilostachya*) (FACW). SP1 soil exhibited a loamy brown matrix (7.5YR 2.5/1) with no redoxymorphic features. No hydrologic indicators were present. Hydrophytic vegetation is present at SP1; however, hydric soils and hydrology are not. Therefore, SP1 does not meet all the wetland criteria.

#### **Soil Pit 2**

Soil Pit 2 (SP2) was located in channel bottom of Drainage 224f within the Campo Indian Reservation (**Figure 3**, Map 28). Hydrophytic vegetation is dominant at SP2 and includes: seep monkey flower (OBL), horseweed (FAC), hedge nettle (*Stachys ajugoides* Benth. var. *rigida*) (OBL), everlasting cudweed (*Gnaphalium stramineum*) (UPL), stinging nettle (*Urtica dioica*) (FACW), and watercress (OBL). Although SP2 sandy loam brown (10YR 3/2) exhibited no redoxymorphic features, based on conversation with a local resident, soils meet the definition for hydric soils based on Hydric Soils Criteria 3 (ponding for long duration). Hydrologic indicators at SP2 included surface water and saturation. SP2 meets all three criteria for wetlands.

#### **Soil Pit 3**

Soil Pit 3 (SP3) was located in the channel bottom of Drainage 224a within the Campo Indian Reservation (**Figure 3**, Map 27). Hydrophytic vegetation is dominant at SP3 and includes: seep monkey flower, toad rush (FACW), and rabbitfoot grass (*Polypogon monspilensis*) (FACW). SP3 silty loam brown (2.5Y 4/2) soils exhibited no redoxymorphic features. Therefore, soils do not meet the criteria for

hydric soils. Surface soil cracks were observed, although no saturation or inundation was apparent within four days of a rain event. SP3 does not meet all three criteria for wetlands.

#### ***Soil Pit 4***

Soil Pit 4 (SP4) was located in a perennial seep associated with Drainage 209 within the Manzanita Indian Reservation (**Figure 3**, Map 26). Hydrophytic vegetation is dominant at SP4 and includes: arroyo willow (FACW), yerba mansa (OBL), Mexican rush (FACW), willow herb (FACW), and watercress. SP4 sandy clay loam brown (10YR 3/1) soil exhibited no redoxymorphic features. However, based on conversations with a local resident, soils meet hydric soil criteria based on Hydric Soils Criteria 3 (ponding for long duration). Hydrologic indicators at SP4 included surface water, high water table, and soil saturation. SP4 meets the criteria for wetlands.

#### ***Soil Pit 5***

Soil Pit 5 (SP5) was located in an impoundment of Drainage 200a within the Manzanita Indian Reservation (**Figure 3**, Map 25). Hydrophytic vegetation is dominant at SP 5 and includes: heliotrope (OBL), toad rush, and common purslane (FAC). SP5 silty clay loam brown (10YR 3/2) soils exhibited 10 percent redox concentrations (7.5YR 4/4). SP5 soils meet the hydric soils criteria for Redox Dark Surface. Surface soil cracks satisfy the criteria for hydrology. SP5 meets all three wetland criteria.

### **3.2 CALIFORNIA DEPARTMENT OF FISH AND GAME JURISDICTIONAL AREAS**

All USACE jurisdictional drainages on BLM, state, and county (private) lands are considered jurisdictional by the CDFG. CDFG jurisdiction is similar to that of USACE jurisdiction, but also extends to the top of the bank and encompasses riparian vegetation when present. CDFG jurisdictional areas occurring within the survey area are summarized in **Table 1**.

### **3.3 COUNTY OF SAN DIEGO RESOURCE PROTECTION ORDINANCE JURISDICTIONAL AREAS**

County wetlands occur throughout the survey area and directly correspond to all USACE Waters of the U.S. occurring on county/private lands. County RPO jurisdictional areas occurring within the survey area are summarized in **Table 1**.

### **4.0 IMPACTS TO JURISDICTIONAL AREAS**

Implementation of the proposed project would result in temporary and permanent impacts to federal, state, and County jurisdictional areas and are summarized in **Table 2** below. Impacts are also identified on **Figure 3**, Maps 1 through 40.

**Table 2. Proposed Project Impacts to Jurisdictional Areas**

Land Ownership	Impacts	Agency				
		USACE Wetlands	Total USACE Waters of the U.S.	RWQCB Waters of the State	CDFG Jurisdictional Areas*	County RPO Wetlands <sup>1</sup>
BLM	Temp	-	0.29	0.29	0.57	-
	Perm	-	0.22	0.22	0.31	-
	<b>Total</b>	-	<b>0.51</b>	<b>0.51</b>	<b>0.88</b>	-
State	Temp	-	-	-	-	-
	Perm	-	0.00	0.00	0.00	-
	<b>Total</b>	-	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	-
County/Private	Temp	-	0.06	0.06	0.17	0.06
	Perm	-	0.04	0.04	0.07	0.04
	<b>Total</b>	-	<b>0.10</b>	<b>0.10</b>	<b>0.24</b>	<b>0.10</b>
Campo Reservation	Temp	-	-	-	-	-
	Perm	-	0.01	0.01	-	-
	<b>Total</b>	-	<b>0.01</b>	<b>0.01</b>	-	-
Manzanita Reservation	Temp	-	-	-	-	-
	Perm	-	0.02	0.02	-	-
	<b>Total</b>	-	<b>0.02</b>	<b>0.02</b>	-	-
Ewiiapaayp Reservation	Temp	-	0.00	0.00	-	-
	Perm	-	0.01	0.01	-	-
	<b>Total</b>	-	<b>0.02</b>	<b>0.02</b>	-	-
<b>Total</b>	Temp	-	0.36	0.36	0.75	-
	Perm	-	0.30	0.30	0.38	-
	<b>Total</b>	-	<b>0.65</b>	<b>0.65</b>	<b>1.13</b>	<b>0.10</b>

<sup>1</sup> The various jurisdictional areas overlap with each other.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

This report presents HDR's best effort at determining the jurisdictional boundaries using the most recent regulations, policy, and guidance from the regulatory agencies. However, as with any jurisdictional delineation, only the regulatory agencies can make a final determination of jurisdictional boundaries.

The proposed project may involve impacting on-site jurisdictional drainages and, therefore, authorizations from the USACE, RWQCB, and CDFG may be required. These requirements are identified in Sections 7.1 through 7.3 of the *Draft Jurisdictional Delineation Report*.

## 6.0 REFERENCES

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\_\_\_\_\_. 2008c. 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. <http://www.usace.army.mil/CECW/Documents/cecwo/reg/trel08-28.pdf>. Viewed October 28, 2009.

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**APPENDIX A**  
**Survey Dates, Times, and Conditions**



## Appendix A

### Survey Dates, Times, and Conditions

Date	Surveyors*	Times	Temp (start/end)	Cloud Cover (start/end)	Wind (start/end)	Task	Notes
10/4/2010	AS/BM/IC	Start: 0800 End: 1600	60°/ 56°	0%/ 100%	3-5 mph/ 10-12 mph	Wetland Delineation	—
10/5/2010	AS/SC	Start: 0800 End: 1300	50°/ 71°	100%/ 0%	8-10mph	Wetland Delineation	—
10/6/2010	IC/SC	Start: 0800 End: 1530	45°/ 65°	100%/ 0%	8-10 mph/ 3-5 mph	Wetland Delineation	—
10/7/2010	BM/SC	Start: 0815 End: 1145	44°/ 65°	0%/ 0%	5-10 mph	Wetland Delineation	—
11/3/2010	AS/SC	Start: 0800 End: 1145	NR/ 77°	0%/ 0%	5-6 mph	Wetland Delineation	—
11/4/2010	AS/BM	Start: 0815 End: 1600	73°/ 76°	0%/ 0%	0 mph/ 2-4 mph	Wetland Delineation	—
11/5/2010	BM/SC	Start: 0815 End: 1620	NR/ 79°	0%/ 0%	3-4 mph	Wetland Delineation	—
11/8/2010	AS/BM	Start: 0945 End: 1545	50°/ 47°	100%/50%	10-12 mph	Wetland Delineation	—
11/9/2010	AS/BM	Start: 0900 End: 1500	51°/ 60°	0%/ 0%	3-5 mph/ 0 mph	Wetland Delineation	—
11/10/2010	IC/SC	NR	NR	NR	NR	Wetland Delineation	
11/11/2010	AS/BM	Start: 0945 End: 1530	55°/ 58°	0%/ 5%	6-9 mph/ 12-15 mph	Wetland Delineation	—
11/12/2010	AS/BM	Start: 0900 End: 1530	52°/60°	0%/ 0%	4-6 mph	Wetland Delineation	—
11/16/2010	AS/BM	Start: 1030 End: 1400	62°/ 65°	0%/ 0%	7-10 mph/ 7-10 mph	Wetland Delineation	—
11/17/2010	AS/SC	NR	NR	NR	NR	Wetland Delineation	—
11/18/2010	AS/SC	NR	NR	NR	NR	Wetland Delineation	—

\* Surveyor acronyms: (AS) Allegra Simmons, (BM) Brynne Mulrooney, (IC) Ingrid Chlup, (SC) Scot Chandler.  
NR- not recorded

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**APPENDIX B**  
**Delineation Field Forms**



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Tule Wind Farm City/County: Campo Reservation, San Diego County Sampling Date: 10/04/10  
 Applicant/Owner: Iberdrola Renewables State: CA Sampling Point: P1  
 Investigator(s): Brynne Mulrooney, Allegra Simmons, Ingrid Chlup Section, Township/Range: 10, 17 S, 6E  
 Landform (hillside, terrace, fan, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): C Lat: 32° 42' 41.64" N Long: 116° 21' 39.98" W Datum: NAD 83  
 Soil Map Unit Name: Loamy alluvial land wetland NWI classification: Freshwater emergent

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? No Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area Within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Photo 2187 - 88	

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
Total Cover: _____	_____	_____	_____	
<b>Sapling/Shrub Stratum</b>				<b>Prevalence Index worksheet:</b>
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
Total Cover: _____	_____	_____	_____	UPL species _____ x 5 = _____
<b>Herb Stratum</b>				Column Totals: _____ (A) _____ (B)
1. <i>Carex praegracilis</i>	90	Y	FACW	Prevalence Index = B/A = _____
2. <i>Eriophyllum confertiflorum</i>	10	N	FACU	
3. <i>Lactuca serriola</i>	10	N	FAC	<b>Hydrophytic Vegetation Indicators:</b>
4. <i>Cirsium vulgare</i>	5	N	FACU	
5. <i>Urtica dioica</i>	5	N	FACW	
6. <i>Rumex crispus</i>	1	N	FACW	
7. <i>Ambrosia psilostachya</i>	1	N	FACW	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	_____ Dominance Test is >50%
<b>Woody Vine Stratum</b>				_____ Prevalence Index is ≤3.0 <sup>1</sup>
1. _____	_____	_____	_____	_____ Morphological Adaptations <sup>1</sup> (Provide supporting date in Remarks or on a separate sheet)
2. _____	_____	_____	_____	_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Total Cover: _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:				



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Tule Wind Farm City/County: Campo Reservation, San Diego County Sampling Date: 10/04/10

Applicant/Owner: Iberdrola Renewables State: CA Sampling Point: SP 2

Investigator(s): Brynne Mulrooney, Allegra Simmons, Ingrid Chlup Section, Township/Range: 10, 17 S, 6 E

Landform (hillside, terrace, fan, etc.): streambank Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): C Lat: 32° 42' 58.35" N Long: 116° 21' 34.22" W Datum: NAD 83

Soil Map Unit Name: Mottsville loamy coarse sand NWI classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No      (If no, explain in Remarks.)

Are Vegetation     , Soil     , or Hydrology      significantly disturbed? No Are "Normal Circumstances" present? Yes X No     

Are Vegetation     , Soil     , or Hydrology      naturally problematic? No (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?      Yes <u>X</u> No <u>    </u> Hydric Soil Present:                      Yes <u>X</u> No <u>    </u> Wetland Hydrology Present:            Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area Within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks:	

**VEGETATION**

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>    2    </u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>    2    </u> (B)
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>    100    </u> (A/B)
Total Cover: _____	_____	_____	_____	
<u>Sapling/Shrub Stratum</u>				<b>Prevalence Index worksheet:</b>
1. <u>Artemisia tridentata ssp. tridentata</u>	15	N	UPL	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
Total Cover: _____	_____	_____	_____	UPL species _____ x 5 = _____
<u>Herb Stratum</u>				Column Totals: _____ (A) _____ (B)
1. <u>Mimulus guttatus</u>	45	Y	OBL	Prevalence Index = B/A = _____
2. <u>Conyza canadensis</u>	30	Y	FAC	
3. <u>Stachys ajugoides Benth. var rigida</u>	5	N	OBL	<b>Hydrophytic Vegetation Indicators:</b>
4. <u>Gnaphalium stramineum</u>	5	N	UPL	
5. <u>Urtica dioica</u>	10	N	FACW	
6. <u>Rorripa nasturtium aquaticum</u>	1	N	OBL	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<u>Woody Vine Stratum</u>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>
Total Cover: _____	_____	_____	_____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

Remarks: Distinct change in vegetation



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Tule Wind Farm City/County: Campo Reservation/San Diego County Sampling Date: 10/04/10

Applicant/Owner: Iberdrola Renewables State: CA Sampling Point: P3- TH2-12

Investigator(s): Ingrid Chlup, Brynne Mulrooney, Allegra Simmons Section, Township/Range: 10, 17 S, 6 E

Landform (hillside, terrace, fan, etc.): Streambed Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C Lat: 32° 43' 2.40" N Long: 116° 21' 26.15" W Datum: NAD 83

Soil Map Unit Name: La Posta loamy coarse sand NWI classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology  significantly disturbed? No Are "Normal Circumstances" present? Yes  No

Are Vegetation , Soil , or Hydrology  naturally problematic? No (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present:                      Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present:            Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area Within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

**VEGETATION**

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	_____	_____	_____		
4. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
Total Cover: _____	_____	_____	_____		
<u>Sapling/Shrub Stratum</u>				<b>Prevalence Index worksheet:</b>	
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____	
2. _____	_____	_____	_____	OBL species _____ x 1 = _____	
3. _____	_____	_____	_____	FACW species _____ x 2 = _____	
4. _____	_____	_____	_____	FAC species _____ x 3 = _____	
5. _____	_____	_____	_____	FACU species _____ x 4 = _____	
Total Cover: _____	_____	_____	_____	UPL species _____ x 5 = _____	
<u>Herb Stratum</u>				Column Totals: _____ (A)      _____ (B)	
1. <u>Mimulus guttatus</u>	50	Y	OBL	Prevalence Index = B/A = _____	
2. <u>Juncus bufonius</u>	10	N	FACW		
3. <u>Polypogon monspeliensis</u>	10	N	FACW		
4. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b>	
5. _____	_____	_____	_____		<input checked="" type="checkbox"/> Dominance Test is >50%
6. _____	_____	_____	_____		<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
7. _____	_____	_____	_____		<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
8. _____	_____	_____	_____		<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
9. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
Total Cover: _____	_____	_____	_____		
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
Total Cover: _____	_____	_____	_____		
% Bare Ground in Herb Stratum <u>30</u> % Cover of Biotic Crust _____					

Remarks:



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Tule Wind Farm City/County: Manzanita Reservation/San Diego County Sampling Date: 10/06/10  
 Applicant/Owner: Iberdrola Renewables State: CA Sampling Point: SP4 (TH1-11)  
 Investigator(s): Scot Chandler, Ingrid Chlup Section, Township/Range: 34, 16 S, 6 E  
 Landform (hillside, terrace, fan, etc.): seep Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): C Lat: 32° 44' 19.89" N Long: 116° 21' 34.43" W Datum: NAD 83  
 Soil Map Unit Name: Mottsville loamy coarse sand NWI classification: Riverine

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? No Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present:                      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present:            Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area Within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

**VEGETATION**

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. <u>Salix lasiolepis</u>	30	Y	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
Total Cover: _____	_____	_____	_____	
<u>Sapling/Shrub Stratum</u>				<b>Prevalence Index worksheet:</b>
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by:
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
Total Cover: _____	_____	_____	_____	UPL species _____ x 5 = _____
<u>Herb Stratum</u>				Column Totals: _____ (A) _____ (B)
1. <u>Anemopsis californica</u>	40	Y	OBL	Prevalence Index = B/A = _____
2. <u>Juncus mexicanus</u>	40	Y	FACW	
3. <u>Epilobium ciliatum</u>	5	N	FACW	<b>Hydrophytic Vegetation Indicators:</b>
4. <u>Rorippa nasturtium-aquaticum</u>	5	N	OBL	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is >50%
9. _____	_____	_____	_____	_____ Prevalence Index is ≤3.0 <sup>1</sup>
Total Cover: _____	_____	_____	_____	_____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
<u>Woody Vine Stratum</u>				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
% Bare Ground in Herb Stratum <u>10</u> % Cover of Biotic Crust _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: Vegetation is confined to streambanks.



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Tule Wind Farm City/County: Manzanita Reservation/San Diego County Sampling Date: 10/06/10

Applicant/Owner: Iberdrola Renewables State: CA Sampling Point: SP-5 (TH1-25)

Investigator(s): Scot Chandler, Ingrid Chlup Section, Township/Range: 27, 16 S, 6 E

Landform (hillside, terrace, fan, etc.): streambed Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C Lat: **32° 45' 8.82" N** Long: **116° 21' 16.92" W** Datum: NAD 83

Soil Map Unit Name: Kitchen Creek loamy coarse sand NWI classification: Freshwater pond

Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology  significantly disturbed? No Are "Normal Circumstances" present? Yes  No

Are Vegetation , Soil , or Hydrology  naturally problematic? No (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present:                      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present:            Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area Within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

**VEGETATION**

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<u>Sapling/Shrub Stratum</u>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<u>Herb Stratum</u>				
1. <i>Heliotropium curassavicum</i>	3	Y	OBL	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <i>Juncus bufonius</i>	3	Y	FACW	
3. <i>Portulaca oleracea</i>	3	Y	FAC	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
<u>Woody Vine Stratum</u>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____	_____	_____	_____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Remarks:



**APPENDIX C**  
**Drainage Table**



### Appendix C Drainage Table

USACE Waters of the U.S./USACE Wetland*/ CDFG (only) Jurisdictional Area**	Substrate	Slope Type	Dominant Vegetation	Bank Height	Length (feet)	Photo Number	USACE Waters of the U.S./USACE Wetland*		CDFG Jurisdictional Areas		RPO Jurisdictional Areas		Land Ownership
							Width (feet)	Area (acres)	Width (feet)	Area (acres)	Width (feet)	Area (acres)	
5c	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with birch-leaf mountain-mahogany, holly-leaf cherry, chamise, scrub oak and cup-leaf lilac.	1.0	158	--	2.0	0.007	--	--	--	--	Indian Reservation (Ewiiapaayp)
12a	Sandy Loam with Cobble	Steeply sloping	Channel is unvegetated. Banks vegetated with big sagebrush, live oak, chamise, cup leaf ceanothus and deergrass.	1.5	1495	--	2.0	0.068	2.0	0.082	--	--	Federal (BLM)
12b	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with big sagebrush and birch-leaf mountain-mahogany.	1.0	35	--	2.0	0.002	2.0	0.002	--	--	Federal (BLM)
12c	Sandy Loam	Steeply sloping	Channel is unvegetated. Banks vegetated with big sagebrush, birch-leaf mountain-mahogany, live oak and deergrass.	1.5	2002	--	2.0	0.088	2.0	0.126	--	--	Federal (BLM)
20a	Sandy Loam with Cobble	Steeply sloping	Channel is unvegetated. Banks vegetated with chamise, birch-leaf mountain-mahogany, California buckwheat, scrub oak, white sage and desert baccharis.	2.0	438	--	2.0	0.020	2.0	0.020	--	--	Federal (BLM)
21a	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with scrub oak, birch-leaf mountain-mahogany, tarragon, California buckwheat and sugar bush.	2.0	480	--	1.5	0.016	1.5	0.073	--	--	Federal (BLM)
22a	Sandy Cobble	Gently sloping	Channel is unvegetated. Banks vegetated with California buckwheat, chamise, wild oat and big sagebrush.	1.0	572	--	2.0	0.025	2.0	0.025	--	--	Federal (BLM)
23a	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with chamise, California buckwheat, birch-leaf mountain-mahogany and tarragon.	1.0	529	--	1.5	0.017	1.5	0.017	--	--	Federal (BLM)
51b	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with scrub oak, big sagebrush and California buckwheat.	1.0	323	--	1.0	0.015	2.0	0.007	--	--	Federal (BLM)
57e	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with bromes, California buckwheat and sugar bush.	0.5	207	--	0.5	0.002	0.5	0.002	--	--	Federal (BLM)
70d	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with scrub oak, deergrass, desert baccharis, Tecate tarplant, bromes, big sagebrush, chamise and tarragon.	1.0	175	--	2.0	0.008	2.0	0.008	--	--	Federal (BLM)
72d	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with big sagebrush, California buckwheat, scrub oak, tarragon, bromes, boundary goldenbush, bromes and birch-leaf mountain-mahogany.	1.0	576	--	3.0	0.039	3.0	0.077	--	--	Federal (BLM)
72e	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with big sagebrush, California buckwheat, scrub oak, tarragon, bromes, boundary goldenbush and birch-leaf mountain-mahogany.	1.0	344	1	3.0	0.022	3.0	0.022	--	--	Federal (BLM)
75a	Sand	Gently to steeply sloping	Channel is unvegetated. Banks vegetated with boundary goldenbush, scrub oak, California matchweed and California buckwheat.	0.0	34	--	1.0	0.001	1.0	0.001	--	--	Federal (BLM)
77d	Sand	Gently to steeply sloping	Channel is unvegetated. Banks vegetated with red shank, desert baccharis and manzanita.	1.0	1497	--	1.5	0.051	1.5	0.051	--	--	Federal (BLM)
82c	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with red shank, big sagebrush, desert baccharis, California buckwheat and bromes.	0.5	1166	--	1.0	0.027	1.0	0.027	--	--	Federal (BLM)
83m	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with big sagebrush, live oak, tarragon and desert baccharis.	2.0	503	--	3.0	0.033	3.0	0.063	--	--	Federal (BLM)
83n	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with desert baccharis, annual beard grass, big sagebrush and Tecate tarplant.	1.0	526	--	2.0	0.023	2.0	0.048	--	--	Federal (BLM)
83o	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with big sagebrush, California ephedra and tarragon.	0.5	759	--	15.0	0.259	15.0	0.259	--	--	Federal (BLM)
83p	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with big sagebrush, California ephedra and tarragon.	0.5	379	--	40.0	0.347	40.0	0.347	--	--	Federal (BLM)
83q	Sand	Gently sloping to vertically incised	Channel is unvegetated. Banks vegetated with big sagebrush, California ephedra and tarragon.	0.5	133	--	20.0	0.061	20.0	0.061	--	--	Federal (BLM)
83r	Sand	Gently sloping to vertically incised	Channel is unvegetated. Banks vegetated with big sagebrush, California ephedra, tarragon and live oak.	0.5	1257	--	10.0	0.284	10.0	0.449	10.0	0.160	Federal (BLM)/ County (Private)

USACE Waters of the U.S./USACE Wetland*/ CDFG (only) Jurisdictional Area**	Substrate	Slope Type	Dominant Vegetation	Bank Height	Length (feet)	Photo Number	USACE Waters of the U.S./USACE Wetland*		CDFG Jurisdictional Areas		RPO Jurisdictional Areas		Land Ownership
							Width (feet)	Area (acres)	Width (feet)	Area (acres)	Width (feet)	Area (acres)	
83s	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with big sagebrush and Goodding's black willow.	0.5	130	--	3.0	0.009	3.0	0.009	3.0	0.009	County (Private)
83t	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with big sagebrush, tarragon, bromes and live oak.	0.0	710	--	20.0	0.325	20.0	0.381	20.0	0.325	County (Private)
85c	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with bromes, Tecate tarplant, annual beard grass, Jacumba milkvetch, cane cholla, California matchweed, California buckwheat, scrub oak and big sagebrush.	1.0	749	2	1.5	0.025	1.5	0.025	--	--	Federal (BLM)
87d	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with Tecate tarplant, holly-leaf cherry, big sagebrush, seep monkey flower, annual beard grass, bromes, scrub oak, live oak and tarragon.	1.0	1624	--	2.0	0.070	2.0	0.120	--	--	Federal (BLM)
91d	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with holly-leaf cherry, bromes, annual beard grass, scrub oak and seep monkey flower.	0.5	147	--	1.0	0.003	1.0	0.003	--	--	Federal (BLM)
91e	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with foothill buckwheat, California buckwheat, big sagebrush, desert baccharis, annual beard grass and seep monkey flower.	1.0	1604	--	1.5	0.055	1.5	0.126	--	--	Federal (BLM)
91f	Sandy Loam	Steeply sloping to vertically incised	Channel is unvegetated. Banks vegetated with big sagebrush and foothill buckwheat.	0.5	236	--	1.0	0.005	1.0	0.005	--	--	Federal (BLM)
94d	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with foothill buckwheat, scrub oak and bromes.	0.5	274	--	1.0	0.006	1.0	0.006	1.0	0.000	Federal (BLM)/ County (Private)
95d	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with California buckwheat, big sagebrush, desert baccharis, bromes, Tecate tarplant and annual beard grass.	3.0	1440	3	2.0	0.062	2.0	0.062	2.0	0.017	Federal (BLM)/ County (Private)
95e	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with Tecate tarplant, big sagebrush, California matchweed, tarragon, desert baccharis, California buckwheat and horsetweed.	3.0	2765	--	3.0	0.189	3.0	0.379	3.0	0.164	Federal (BLM)/ County (Private)
100a	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with big sagebrush, shiny-leaf yerba santa, California buckwheat and desert woolly-star.	3.0	92	--	1.0	0.002	1.0	0.002	0.002	0.002	County (Private)
101c	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with California buckwheat, big sagebrush, foothill buckwheat and Jacumba milkvetch.	1.0	143	--	1.0	0.003	1.0	0.003	1.0	0.003	County (Private)
102c	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with Davidson's buckwheat, big sagebrush and California buckwheat.	1.0	458	--	1.0	0.010	1.0	0.010	1.0	0.010	County (Private)
103a	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with California ephedra, shiny-leaf yerba santa, California buckwheat, long-stem golden-yarrow and cane cholla.	0.5	202	--	1.0	0.004	1.0	0.004	--	--	Federal (BLM)
104c	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with chamise, red shank and big-berry manzanita.	1.0	246	--	2.0	0.009	2.0	0.009	--	--	Federal (BLM)
106d	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with red shank, California buckwheat and desert woolly-star.	1.0	398	4	3.0	0.023	3.0	0.023	--	--	Federal (BLM)
108f	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with stork's bill, bromes, short-pod mustard, tarragon and big sagebrush.	1.0	250	--	3.0	0.017	3.0	0.017	3.0	0.017	County (Private)
112a	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with California buckwheat, red shank and desert woolly-star.	0.5	245	--	0.5	0.003	0.5	0.003	--	--	Federal (BLM)
113c	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with bromes, big sagebrush and scrub oak.	2.0	171	--	1.0	0.004	1.0	0.008	1.0	0.004	County (Private)
115e	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with big sagebrush, California buckwheat and desert woolly-star.	0.5	337	--	4.0	0.029	4.0	0.029	--	--	Federal (BLM)
117f	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with bromes, stork's bill, western ragweed, western tansy-mustard and big sagebrush.	2.0	242	--	1.0	0.006	1.0	0.006	--	--	State
117g**	--	--	Channel is unvegetated. Banks vegetated with Goodding's black willow, bromes, big sagebrush, short-pod mustard and tamarisk.	--	162	--	--	--	11.0**	0.02**	--	--	Federal (BLM)
129a	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with chamise, shiny-leaf yerba santa, California buckwheat, sugar bush, foothill buckwheat, tarragon and big sagebrush.	3.0	991	--	1.0	0.022	1.0	0.022	--	--	Federal (BLM)
129b	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with sugar bush, California buckwheat, California matchweed, foothill buckwheat, Tecate tarplant, tarragon and scrub oak.	3.0	618	--	1.0	0.014	1.0	0.036	--	--	Federal (BLM)

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							Width (feet)	Area (acres)	Width (feet)	Area (acres)	Width (feet)	Area (acres)	
129c	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with sugar bush, California matchweed, scrub oak and chamise.	4.0	179	--	2.0	0.008	2.0	0.015	--	--	Federal (BLM)
130a	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with big sagebrush, holly-leaf cherry, California buckwheat and red shank.	1.0	840	--	1.0	0.019	1.0	0.019	--	--	Federal (BLM)
130b	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with big sagebrush, California buckwheat, California ephedra, pine goldenbush and desert woolly-star.	0.5	646	--	3.0	0.044	3.0	0.044	3.0	0.019	Federal (BLM)/ County (Private)
131	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with California buckwheat, scrub oak and coyote tobacco.	0.5	238	--	7.5	0.040	15.0	0.081	7.5	0.040	County (Private)
145a	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with Tecate tarplant, bromes, foothill buckwheat, desert baccharis and big sagebrush.	1.0	1194	--	1.5	0.041	1.5	0.041	1.5	0.038	Federal (BLM)/ County (Private)
150c	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with Jacumba milkvetch, California buckwheat, California matchweed and California ephedra.	0.5	85	--	2.0	0.004	2.0	0.004	--	--	Federal (BLM)
151a	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with California buckwheat and shiny-leaf yerba santa.	0.5	70	--	1.0	0.001	1.0	0.001	--	--	Federal (BLM)
152c	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with California buckwheat, desert woolly-star and shiny-leaf yerba santa.	0.5	268	--	1.0	0.006	1.0	0.006	--	--	Federal (BLM)
153a	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with shiny-leaf yerba santa, California buckwheat and big sagebrush.	0.5	101	--	1.0	0.002	1.0	0.002	--	--	Federal (BLM)
154a	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with desert woolly-star, California buckwheat, California ephedra and shiny-leaf yerba santa.	0.5	127	--	1.0	0.003	1.0	0.003	--	--	Federal (BLM)
193	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with birch-leaf mountain-mahogany, desert baccharis and deergrass.	1.5	963	--	2.0	0.044	2.0	0.050	--	--	Federal (BLM)
194a	Sand	Steeply sloping	Channel and banks are unvegetated.	5.0	66	5	20.0	0.002	--	--	--	--	Indian Reservation (Manzanita)
194b	Sand	Steeply sloping	Channel and banks are unvegetated.	1.0	25	--	1.0	0.012	--	--	--	--	Indian Reservation (Manzanita)
195a	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with California buckwheat, live oak and coyote tobacco.	0.5	91	--	1.0	0.002	--	--	--	--	Indian Reservation (Manzanita)
195b	Sandy Loam	Steeply sloping	Channel is unvegetated. Banks vegetated with California buckwheat, live oak and coyote tobacco.	5.0	53	6	15.0	0.019	--	--	--	--	Indian Reservation (Manzanita)
196	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with California buckwheat, birch-leaf mountain-mahogany and bromes.	0.5	149	--	1.0	0.003	--	--	--	--	Indian Reservation (Manzanita)
197	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with California buckwheat, chamise, birch-leaf mountain-mahogany and bromes.	3.0	187	--	1.0	0.004	--	--	--	--	Indian Reservation (Manzanita)
198a	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with chamise and birch-leaf mountain-mahogany.	0.5	200	--	1.0	0.004	--	--	--	--	Indian Reservation (Manzanita)
198a-culvert				2.0	62	--	2.0	0.003	--	--	--	--	Indian Reservation (Manzanita)
198b	Sandy Loam	Steeply sloping to vertically incised	Channel is unvegetated. Banks vegetated with arroyo willow, live oak, California buckwheat, foothill buckwheat, birch-leaf mountain-mahogany and bromes.	2.0	1414	--	2.0	0.063	--	--	--	--	Indian Reservation (Manzanita)
199	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with California buckwheat, foothill buckwheat, big sagebrush, bromes, wild oat, chamise, manzanita and birch-leaf mountain-mahogany.	1.0	761	--	3.0	0.048	--	--	--	--	Indian Reservation (Manzanita)
200a*	Silty Clay Loam/Sandy Loam	Gently sloping	Channel and banks are vegetated with salt heliotrope, toad rush and common purslane.	--	95	7	30.0*	0.050*	--	--	--	--	Indian Reservation (Manzanita)

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							Width (feet)	Area (acres)	Width (feet)	Area (acres)	Width (feet)	Area (acres)	
200b	Sandy Loam	Steeply sloping to vertically incised	Channel is unvegetated. Banks vegetated with chamise, live oak, California buckwheat, foothill buckwheat, birch-leaf mountain-mahogany, cane cholla and holly-leaf cherry.	1.5	785	--	2.0	0.035	--	--	--	--	Indian Reservation (Manzanita)
201	Sandy Loam	Steeply sloping to vertically incised	Channel is unvegetated. Banks vegetated with chamise, birch-leaf mountain-mahogany, bromes, California buckwheat and foothill buckwheat.	1.0	634	--	1.0	0.013	--	--	--	--	Indian Reservation (Manzanita)
202	Sand	Gently sloping to steeply sloping	Channel is unvegetated. Banks vegetated with wild oat, California buckwheat and boundary goldenbush.	5.0	525	--	2.0	0.023	--	--	--	--	Indian Reservation (Manzanita)
203a	Sand	Gently sloping to vertically incised	Channel is unvegetated. Banks vegetated with live oak, manzanita, chaparral whitethorn, California buckwheat and foothill buckwheat.	4.0	323	--	8.0	0.056	--	--	--	--	Indian Reservation (Manzanita)
203b	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with live oak, arroyo willow, California buckwheat and bromes.	6.0	511	8	11.0	0.104	--	--	--	--	Indian Reservation (Manzanita)
203c	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with big sagebrush, arroyo willow, California buckwheat and live oak.	6.0	1190	--	18.0	0.462	--	--	--	--	Indian Reservation (Manzanita)
203d	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with big sagebrush, arroyo willow and California buckwheat.	6.0	1101	--	8.0	0.166	12.0	0.048	8.0	0.023	Indian Reservation (Manzanita)/ County (Private)
204	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with big sagebrush, arroyo willow and California buckwheat.	3.0	140	--	3.0	0.02	3.0	0.02		0.02	County (Private)
205a	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with chaparral whitethorn and California buckwheat.	3.0	200	--	2.0	0.008	--	--	--	--	Indian Reservation (Manzanita)
205a-culvert				2.0	57	--	2.0	0.003	--	--	--	--	Indian Reservation (Manzanita)
205b	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with tarragon, big sagebrush, boundary goldenbush, California buckwheat and chaparral whitethorn.	4.0	321	--	2.0	0.013	--	--	--	--	Indian Reservation (Manzanita)
206	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with big sagebrush, California buckwheat and live oak.	0.0	278	--	5.0	0.025	--	--	--	--	Indian Reservation (Manzanita)
206-culvert				2.0	76	--	2.0	0.004	--	--	--	--	Indian Reservation (Manzanita)
207a	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with live oak, watercress and big sagebrush.	2.0	393	9	5.0	0.035	--	--	--	--	Indian Reservation (Manzanita)
207b*	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with live oak, watercress and big sagebrush.	2.0	409	--	5.0	0.037	--	--	--	--	Indian Reservation (Manzanita)
207c*	Sandy Clay Loam	Steeply sloping to gently sloping	Channel is unvegetated. Banks vegetated with watercress, Mexican rush, arroyo willow and yerba mansa.	6.0	490	10	30.0	0.302	--	--	--	--	Indian Reservation (Manzanita)
207d	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with hoary nettle, big sagebrush, arroyo willow, manzanita, California buckwheat, foothill buckwheat, slender buckwheat, boundary goldenbush, bromes and live oak.	10.0	624	--	7.0	0.087	--	--	--	--	Indian Reservation (Manzanita)
208	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with watercress.	0.5	303	11	2.0	0.012	--	--	--	--	Indian Reservation (Manzanita)
209*	Sandy Clay Loam	Steeply sloping	Channel is unvegetated. Banks vegetated with watercress, California fuchsia, big sagebrush and Mexican rush.	0.0	30	12	0.01	0.012	--	--	--	--	Indian Reservation (Manzanita)
210	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with big sagebrush.	10.0	239	--	2.0	0.010	--	--	--	--	Indian Reservation (Manzanita)
211a	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with foothill buckwheat, California buckwheat and small wreath-plant.	1.0	331	--	2.0	0.015	--	--	--	--	Indian Reservation (Campo)

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							Width (feet)	Area (acres)	Width (feet)	Area (acres)	Width (feet)	Area (acres)	
211b	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with California buckwheat, foothill buckwheat, slender buckwheat, small wreath-plant and bromes.	1.0	472	--	1.0	0.011	--	--	--	--	Indian Reservation (Campo)
212	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with California buckwheat, slender buckwheat, small wreath-plant and California aster.	1.0	114	13	1.0	0.003	--	--	--	--	Indian Reservation (Campo)
213	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with birch-leaf mountain-mahogany, California buckwheat, California aster, slender buckwheat and small wreath-plant.	4.0	231	--	1.0	0.005	--	--	--	--	Indian Reservation (Campo)
214	Sandy Loam	Vertically incised to steeply sloping	Channel is unvegetated. Banks vegetated with California buckwheat, foothill buckwheat, birch-leaf mountain-mahogany, live oak and long-stem golden-yarrow.	1.0	336	14	2.0	0.015	--	--	--	--	Indian Reservation (Campo)
215	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with chamise, birch-leaf mountain-mahogany and California buckwheat.	2.0	197	--	2.0	0.009	--	--	--	--	Indian Reservation (Campo)
216	Loam	Vertically incised	Channel is unvegetated. Banks vegetated with chamise.	5.0	130	--	2.0	0.006	--	--	--	--	Indian Reservation (Manzanita)
217	Sandy Loam	Vertically incised	Channel is unvegetated. Banks vegetated with California buckwheat, foothill buckwheat and bromes.	1.0	89	--	1.0	0.002	--	--	--	--	Indian Reservation (Manzanita)
218	Sandy Loam	Vertically incised	Channel is unvegetated. Banks vegetated with California buckwheat, bromes and slender buckwheat.	4.0	181	15	1.0	0.004	--	--	--	--	Indian Reservation (Manzanita)
219	Sandy Loam	Vertically incised	Channel is unvegetated. Banks vegetated with big sagebrush, California buckwheat, bromes and chamise.	4.0	128	--	2.0	0.006	--	--	--	--	Indian Reservation (Manzanita)
220	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with dark-tipped bird's beak, California buckwheat, chamise and woolly blue curls.	3.0	137	--	1.0	0.003	--	--	--	--	Indian Reservation (Campo)
221	Sandy Loam	Vertically incised	Channel is unvegetated. Banks vegetated with big sagebrush, chamise and California buckwheat.	6.0	143	--	2.0	0.007	--	--	--	--	Indian Reservation (Campo)
222a	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with chamise, seep monkey flower, birch-leaf mountain-mahogany, bromes and California buckwheat.	5.0	498	--	2.0	0.023	--	--	--	--	Indian Reservation (Campo)
222a-culvert				2.0	33	--	2.0	0.002	--	--	--	--	Indian Reservation (Campo)
222b	Loam	Vertically incised	Channel is unvegetated. Banks vegetated with birch-leaf mountain-mahogany, hoary nettle, bromes, California buckwheat and live oak.	3.0	158	--	2.0	0.007	--	--	--	--	Indian Reservation (Campo)
223a	Sandy Loam	Vertically incised to gently sloping	Channel is unvegetated. Banks vegetated with chaparral whitethorn, California buckwheat, pine goldenbush and hoary nettle.	2.0	207	--	2.0	0.010	--	--	--	--	Indian Reservation (Campo)
223a-culvert				2.0	55	--	2.0	0.003	--	--	--	--	Indian Reservation (Campo)
223b	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with tarragon, live oak, California buckwheat, bromes and short-pod mustard.	1.0	304	16	4.0	0.028	--	--	--	--	Indian Reservation (Campo)
224a	Silty Loam	Vertically incised	Channel is unvegetated. Banks vegetated with California buckwheat, seep monkey flower, tumble mustard and Mexican rush.	1.5	125	--	1.0	0.003	--	--	--	--	Indian Reservation (Campo)
224b	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with California buckwheat, seep monkey flower, tumble mustard, Mexican rush and tarragon.	1.5	128	--	3.0	0.009	--	--	--	--	Indian Reservation (Campo)
224c	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with live oak, bromes and California buckwheat.	0.5	70	--	3.0	0.005	--	--	--	--	Indian Reservation (Campo)
224d	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with California buckwheat, bromes, wild oat and tarragon.	1.0	394	--	6.0	0.054	--	--	--	--	Indian Reservation (Campo)

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							Width (feet)	Area (acres)	Width (feet)	Area (acres)	Width (feet)	Area (acres)	
224e	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with bromes, wild oat, tarragon and California buckwheat.	1.0	147	--	2.0	0.007	--	--	--	--	Indian Reservation (Campo)
224f*	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with big sagebrush, hoary nettle, horseweed and cudweed.	4.0	130	17	10.0	0.030	--	--	--	--	Indian Reservation (Campo)
225	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with tarragon and foothill buckwheat.	1.0	78	--	1.0	0.002	--	--	--	--	Indian Reservation (Campo)
226	Sandy Loam	Vertically incised	Channel is unvegetated. Banks vegetated with bromes and foothill buckwheat.	1.0	43	--	1.0	0.001	--	--	--	--	Indian Reservation (Campo)
227	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with tarragon, California buckwheat and foothill buckwheat.	0.5	135	--	1.0	0.003	--	--	--	--	Indian Reservation (Campo)
228	Sandy Loam	Vertically incised	Channel is unvegetated. Banks vegetated with tarragon, California buckwheat and foothill buckwheat.	2.0	168	--	1.0	0.004	--	--	--	--	Indian Reservation (Campo)
229	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with California buckwheat, foothill buckwheat and bromes.	1.0	100	--	2.0	0.004	--	--	--	--	Indian Reservation (Campo)
229-culvert				2.0	43	--	2.0	0.002	--	--	--	--	Indian Reservation (Campo)
230a	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with wild oat, bromes, California buckwheat, big sagebrush and boundary goldenbush.	3.0	230	--	3.0	0.011	--	--	--	--	Indian Reservation (Campo)
230a-culvert				2.0	35	--	2.0	0.02	--	--	--	--	Indian Reservation (Campo)
230b	Sand	Vertically incised to gently sloping	Channel is unvegetated. Banks vegetated with wild oat, bromes, California buckwheat, big sagebrush and boundary goldenbush.	3.0	158	18	3.0	0.011	--	--	--	--	Indian Reservation (Campo)
231a	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with wild oat, bromes, California buckwheat, mouse barley and live oak.	0.5	463	--	1.0	0.011	3.0	0.00	--	--	Indian Reservation (Campo)/ State
231a-culvert				2.0	127	--	2.0	0.006	2.0	0.006	--	--	State
231b	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with live oak, tarragon, California buckwheat, bromes, big sagebrush, arroyo willow and hoary nettle.	1.0	508	--	4.0	0.204	5.0	0.058	--	--	State
232	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with live oak, tarragon, California buckwheat, bromes, big sagebrush, arroyo willow and hoary nettle.	1.0	147	--	2.0	0.007	2.0	0.142	--	--	State
233	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with bromes, big sagebrush and California buckwheat.	1.0	504	--	1.5	0.017	--	--	--	--	Indian Reservation (Campo)
234a	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with red shank, bromes, tarragon and birch-leaf mountain-mahogany.	2.0	102	--	1.5	0.003	3.0	0.034	--	--	State
234b	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with bromes, mustard and tarragon.	1.0	55	--	1.0	0.001	2.0	0.003	--	--	State
235	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with big sagebrush, desert baccharis, dark-tipped bird's beak, Tecate tarplant, annual beard grass, seep monkey flower and dock.	1.0	2972	--	1.5	0.102	1.5	0.102	--	--	Federal (BLM)
236	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with California buckwheat, sugar bush, birch-leaf mountain-mahogany, California ephedra, scrub oak, bromes, cane cholla and boundary goldenbush.	1.0	1068	--	2.0	0.044	2.0	0.098	--	--	Federal (BLM)
237	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with California buckwheat, scrub oak, giant stipa, cane cholla, bromes and birch-leaf mountain-mahogany.	0.5	163	--	1.0	0.003	1.0	0.029	--	--	Federal (BLM)

USACE Waters of the U.S./USACE Wetland*/ CDFG (only) Jurisdictional Area**	Substrate	Slope Type	Dominant Vegetation	Bank Height	Length (feet)	Photo Number	USACE Waters of the U.S./USACE Wetland*		CDFG Jurisdictional Areas		RPO Jurisdictional Areas		Land Ownership
							Width (feet)	Area (acres)	Width (feet)	Area (acres)	Width (feet)	Area (acres)	
238	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with California buckwheat, scrub oak, bromes and boundary goldenbush.	1.0	596	--	1.0	0.014	1.0	0.044	--	--	Federal (BLM)
239a	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with California buckwheat, cane cholla, shiny-leaf yerba santa and bromes.	0.0	305	--	1.0	0.007	1.0	0.007	--	--	Federal (BLM)
239b	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with foothill buckwheat, scrub oak, California buckwheat, slender buckwheat and bromes.	1.0	259	--	2.0	0.010	2.0	0.043	--	--	Federal (BLM)
240	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with scrub oak, desert baccharis, big sagebrush, tarragon, seep monkey flower and bromes.	1.0	169	--	2.0	0.007	2.0	0.007	--	--	Federal (BLM)
241a	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with big sagebrush, desert baccharis, annual beard grass, wild oat, Tecate tarplant, live oak and red shank.	0.5	1691	--	1.0	0.038	1.0	0.038	--	--	Federal (BLM)
241b	Sandy Clay	Steeply sloping	Channel is unvegetated. Banks vegetated with big sagebrush, desert baccharis, annual beard grass, wild oat and Tecate tarplant.	2.0	217	--	2.0	0.010	2.0	0.010	--	--	Federal (BLM)
242	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with desert baccharis, red shank, California buckwheat, foothill buckwheat and bromes.	0.5	319	--	1.0	0.007	1.0	0.007	--	--	Federal (BLM)
243	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with chamise, red shank and manzanita.	0.5	812	--	1.0	0.018	1.0	0.018	--	--	Federal (BLM)
244	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with red shank, desert baccharis, deergrass and California matchweed.	0.5	571	--	0.5	0.007	0.5	0.007	--	--	Federal (BLM)
245	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with big sagebrush, red shank and deergrass.	0.5	884	--	1.0	0.019	1.0	0.019	--	--	Federal (BLM)
246	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with big sagebrush, foothill buckwheat, California buckwheat and desert baccharis.	0.5	438	19	1.5	0.015	1.5	0.015	--	--	Federal (BLM)
247a	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with desert baccharis, foothill needlegrass, boundary goldenbush, California ephedra, scrub oak, annual beard grass, sugar bush and chamise.	1.0	1163	--	1.0	0.026	1.0	0.076	--	--	Federal (BLM)
247b	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with California matchweed, manzanita and cane cholla.	1.0	1562	--	2.0	0.063	2.0	0.149	--	--	Federal (BLM)
247b-culvert				2.0	44	--	2.0	0.002	2.0	0.002	--	--	Federal (BLM)
247c	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with live oak, birch-leaf mountain-mahogany, California buckwheat, holly-leaf cherry, foothill buckwheat, bromes and wild oat.	1.0	343	--	2.0	0.016	2.0	0.077	--	--	Federal (BLM)
248	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with California buckwheat, big sagebrush and boundary goldenbush.	0.0	162	--	2.0	0.007	2.0	0.007	--	--	Federal (BLM)
249	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with holly-leaf cherry, California buckwheat and big sagebrush.	0.5	131	20	1.0	0.003	1.0	0.003	--	--	Federal (BLM)
249-culvert				2.0	136	--	2.0	0.003	2.0	0.003	--	--	Federal (BLM)
250	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with California buckwheat, big sagebrush, boundary goldenbush and holly-leaf cherry.	0.5	534	--	1.0	0.012	1.0	0.012	--	--	Federal (BLM)
251	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with holly-leaf cherry, scrub oak, foothill buckwheat and bromes.	0.5	561	--	1.0	0.013	1.0	0.013	--	--	Federal (BLM)
252	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with holly-leaf cherry, red shank, big sagebrush, foothill buckwheat and shiny-leaf yerba santa.	1.0	1124	--	1.5	0.039	1.5	0.039	--	--	Federal (BLM)
253	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with red shank, big sagebrush and California buckwheat.	1.0	1560	--	1.0	0.036	1.0	0.036	--	--	Federal (BLM)
254	Sandy Loam	Gently sloping	Channel is unvegetated. Banks vegetated with foothill buckwheat, California buckwheat, big sagebrush, desert baccharis, annual beard grass and seep monkey flower.	1.0	341	--	1.5	0.012	1.5	0.012	--	--	Federal (BLM)
255	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with California buckwheat, holly-leaf cherry, boundary goldenbush, big sagebrush and shiny-leaf yerba santa.	0.5	519	--	0.5	0.006	0.5	0.006	--	--	Federal (BLM)

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							Width (feet)	Area (acres)	Width (feet)	Area (acres)	Width (feet)	Area (acres)	
256	Sand	Steeply sloping to vertically incised	Channel is unvegetated. Banks vegetated with big sagebrush, California buckwheat, bromes, holly-leaf cherry and foothill buckwheat.	0.5	911	--	1.0	0.021	1.0	0.021	--	--	Federal (BLM)
257	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with big sagebrush, tarragon, California buckwheat and holly-leaf cherry.	0.5	593	--	1.0	0.014	1.0	0.014	--	--	Federal (BLM)
258	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with holly-leaf cherry and chamise.	1.0	164	--	1.0	0.004	1.0	0.004	--	--	Federal (BLM)
259	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with bromes, California buckwheat and holly-leaf cherry.	0.5	153	--	1.0	0.003	1.0	0.003	1.0	0.003	County (Private)
260	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with boundary goldenbush, foothill buckwheat, desert woolly-star and bromes.	1.0	641	--	1.0	0.014	1.0	0.014	1.0	0.010	Federal (BLM)/ County (Private)
261	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with big sagebrush, short-pod mustard and bromes.	1.0	217	--	1.0	0.005	1.0	0.005	1.0	0.005	County (Private)
262a	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with bromes, big sagebrush, short-pod mustard, dock and Goodding's black willow.	5.0	231	--	8.0	0.028	15.0	0.028	8.0	0.028	County (Private)
262b	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with big sagebrush, short-pod mustard and bromes.	4.0	275	21	3.0	0.019	5.0	0.032	3.0	0.019	County (Private)
263a	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with California buckwheat, California ephedra, shortwing deerweed, cotton-thorn, chaparral candle and cane cholla.	1.5	713	--	1.0	0.016	1.0	0.031	1.0	0.014	County (Private)
263b	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with California buckwheat, scrub oak and California matchweed.	2.0	637	--	3.0	0.043	3.0	0.072	3.0	0.043	County (Private)
263b-culvert				2.0	70	--	2.0	0.003	2.0	0.003	2.0	0.003	County (Private)
263c	Coarse Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with tumbleweed, ragweed, slender buckwheat, shiny-leaf yerba santa and live oak.	2.0	993	--	6.0	0.135	6.0	0.157	6.0	0.050	County (Private)
263c-culvert				2.0	56	--	2.0	0.003	2.0	0.003	2.0	0.003	County (Private)
263d	Coarse Sand	Vertically incised	Channel is unvegetated. Banks vegetated with big sagebrush, California buckwheat, California matchweed and shiny-leaf yerba santa.	0.5	1066	--	8.0	0.185	8.0	0.185	8.0	0.185	County (Private)
264	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with shortwing deerweed, cane cholla and red shank.	1.0	224	--	2.0	0.005	2.0	0.059	2.0	0.003	County (Private)
265	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with California buckwheat, California matchweed and manzanita.	1.0	76	--	1.0	0.002	1.0	0.006	1.0	0.001	County (Private)
266	Coarse Sand	Vertically incised	Channel is unvegetated. Banks vegetated with shiny-leaf yerba santa, California matchweed, cotton-thorn and California buckwheat.	1.0	152	22	3.0	0.010	3.0	0.010	3.0	0.010	County (Private)
267	Sand	Steeply sloping	Channel is unvegetated. Banks vegetated with big sagebrush, shiny-leaf yerba santa, tarragon and California matchweed.	3.0	660	--	3.0	0.039	3.0	0.075	3.0	0.039	County (Private)
268a**	Sandy Loam	No bank	Channel is unvegetated. Banks vegetated with Goodding's black willow, deergrass and short-pod mustard.	--	768	--	--	--	40.0**	0.23**	--	--	County (Private)
268b	Sand	Gently sloping	Channel is unvegetated. Banks vegetated with bromes, annual bursage, short-pod mustard, big sagebrush and Goodding's black willow.	0.5	688	--	1.0	0.015	1.0	0.24	1.0	0.015	County (Private)
269	Sand	Vertically incised	Channel is unvegetated. Banks vegetated with big sagebrush, California buckwheat and desert woolly-star.	0.5	267	--	2.0	0.012	2.0	0.012	2.0	0.012	County (Private)

**APPENDIX D**  
**Representative Photographs of**  
**Delineated Drainages**





**Photograph 1.** Downstream view of Drainage 72e.



**Photograph 2.** Upstream view of Drainage 85c.



**Photograph 3.** Upstream view of Drainage 95d.



**Photograph 4.** Downstream view of Drainage 106d.



**Photograph 5.** View of man-made pond associate with Drainage 194a.



**Photograph 6.** Downstream view of man-made basin collects flows from Drainage 195b.



**Photograph 7.** View of seasonal drainage/pond 200a.



**Photograph 8.** Downstream view of Drainage 203b.



**Photograph 9.** Upstream view of perennial Drainage 207a. Portion of drainage is a federal wetland.



**Photograph 10.** View of Drainage 207c, Soil Pit 4.



**Photograph 11.** Upstream view of perennial Drainage 208. Drainage 208 is a seep tributary to Drainage 207.



**Photograph 12.** View of perennial seep associated with Drainage 209.



**Photograph 13.** Downstream view of Drainage 212.



**Photograph 14.** Upstream view of Drainage 214.



**Photograph 15.** Downstream view of Drainage 218.



**Photograph 16.** Downstream view of Drainage 223b.



**Photograph 17.** Downstream view of Drainage 224f (Soil Pit 2 –wetland).



**Photograph 18.** Upstream view of Drainage 230b.



**Photograph 19.** View of Drainage 246.



**Photograph 20.** Upstream view of Drainage 249.



**Photograph 21.** Downstream view of Drainage 262b.



**Photograph 22.** Downstream view of Drainage 266.

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## **APPENDIX E**

### **Additional Dominant Botanical Species Identified in Drainages in Amended Survey Area**



**Appendix E**  
**Additional Dominant Botanical Species Identified in Drainages in Amended Survey Area**

Family Name	Scientific Name	Common Name
Asteraceae (Compositae)	<i>Coryza canadensis</i>	horseweed
	<i>Corethrogyne filaginifolia</i>	California aster
	<i>Gnaphalium stramineum</i>	cudweed
	<i>Stephanomeria exigua</i>	small wreath-plant
	<i>Tetradymia comosa</i>	cotton-thorn
Brassicaceae (Cruciferae)	<i>Rorippa nasturtium-aquaticum</i>	watercress
	<i>Sisymbrium altissimum</i>	tumble mustard
Ericaceae	<i>Arctostaphylos glauca</i>	big-berry manzanita
Fabaceae	<i>Lotus scoparius</i>	short-wing deerweed
Geraniaceae	<i>Erodium cicutarium</i>	stork's bill
Juncaceae	<i>Juncus mexicanus</i>	Mexican rush
	<i>Juncus bufonius</i>	toad rush
Lamiaceae (Labiatae)	<i>Trichostema lanatum</i>	woolly bluecurls
Onagraceae	<i>Epilobium ciliatum</i>	willowherb
Poaceae (Gramineae)	<i>Achnatherum coronatum</i>	giant stipa
	<i>Hordeum murinum</i>	mouse barley
	<i>Nassella lepida</i>	foothill needlegrass
Portulacaceae	<i>Portulaca oleracea</i>	common purslane
Polemoniaceae	<i>Eriastrum eremicum</i>	desert woolly-star
Salicaceae	<i>Salix gooddingii</i>	Goodding's willow
Saururaceae	<i>Anemopsis californica</i>	yerba mansa
Scrophulariaceae	<i>Mimulus guttatus</i>	seep monkey flower
Solanaceae	<i>Nicotiana attenuata</i>	coyote tobacco
Urticaceae	<i>Urtica dioica</i>	hoary nettle

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