



TETRA TECH EC, INC.

DOCKET

09-AFC-8

DATE JAN 13 2010

RECD. JAN 14 2010

January 13, 2010

California Energy Commission
Docket No. 09-AFC-8
1516 9th St.
Sacramento, CA 95814

Genesis Solar Energy Project - Docket Number 09-AFC-8

Docket Clerk:

Included with this letter is one hard copy and one electronic copy of a revised **Notification of Lake or Streambed Alteration for the Genesis Solar Energy Project** and a revised Attachment 2 to the SA Form, **Survey for Jurisdictional Waters and Wetlands at the Genesis Solar Energy Project**.

These revisions were made following suggestions that were made by CEC staff during a CEC conference call on January 6th 2010. Additionally, the original SA form sent on December 31, 2009 was inadvertently missing numbers in Box 11B of the form. This error has been corrected with this resubmission.

This revised documentation was also sent to the California Department of Fish and Game on January 13th 2010.

Sincerely,

Tricia Bernhardt
Project Manager/Tetra Tech EC

cc: Mike Monasmith /CEC Project Manager



FOR DEPARTMENT USE ONLY

Date Received	Amount Received	Amount Due	Date Complete	Notification No.
	\$	\$		



STATE OF CALIFORNIA
DEPARTMENT OF FISH AND GAME
NOTIFICATION OF LAKE OR STREAMBED ALTERATION



Complete EACH field, unless otherwise indicated, following the enclosed instructions and submit ALL required enclosures. Attach additional pages, if necessary.

1. APPLICANT PROPOSING PROJECT

Name	Ryan O'Keefe			
Business/Agency	Genesis Solar, LLC			
Street Address	700 Universe Boulevard			
City, State, Zip	Juno Beach, FL 33408			
Telephone	561-304-5237	Fax		
Email	ryanokeefe@nexteraenergy.com			

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

Name	Kenneth Stein			
Street Address	700 Universe Boulevard			
City, State, Zip	Juno Beach, FL 33408			
Telephone	561-691-2216	Fax		
Email	Kenneth.Stein@nexteraenergy.com			

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

Name	Bureau of Land Management (BLM)			
Street Address	1201 Bird Center Drive			
City, State, Zip	Palm Springs, CA 92262			
Telephone	760-833-7104	Fax		
Email	Allison_Shaffer@blm.gov			

4. PROJECT NAME AND AGREEMENT TERM

A. Project Name	Genesis Solar Project			
B. Agreement Term Requested	<input type="checkbox"/> Regular (5 years or less) <input checked="" type="checkbox"/> Long-term (greater than 5 years)			
C. Project Term	D. Seasonal Work Period		E. Number of Work Days	
Beginning (year)	Ending (year)	Start Date (month/day)	End Date (month/day)	
2010	2040	To be determined	To be determined	To be determined

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

5. AGREEMENT TYPE

Check the applicable box. If box B, C, D, or E is checked, complete the specified attachment.

A.	<input checked="" type="checkbox"/> Standard (Most construction projects, excluding the categories listed below)	
B.	<input type="checkbox"/> Gravel/Sand/Rock Extraction (Attachment A)	Mine I.D. Number: _____
C.	<input type="checkbox"/> Timber Harvesting (Attachment B)	THP Number: _____
D.	<input type="checkbox"/> Water Diversion/Extraction/Impoundment (Attachment C)	SWRCB Number: _____
E.	<input type="checkbox"/> Routine Maintenance (Attachment D)	
F.	<input type="checkbox"/> DFG Fisheries Restoration Grant Program (FRGP)	FRGP Contract Number: _____
G.	<input type="checkbox"/> Master	
H.	<input type="checkbox"/> Master Timber Harvesting	

6. FEES

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

	A. Project	B. Project Cost	C. Project Fee
1	Genesis Solar Project	>\$500,000	\$4,000
2			
3			
4			
5			
		D. Base Fee (if applicable)	
		E. TOTAL FEE ENCLOSED	\$4,000

7. PRIOR NOTIFICATION OR ORDER

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

Yes (Provide the information below) No

Applicant: _____ Notification Number: _____ Date: _____

B. Is this notification being submitted in response to an order, notice, or other directive ("order") by a court or administrative agency (including the Department)?

No Yes (Enclose a copy of the order, notice, or other directive. If the directive is not in writing, identify the person who directed the applicant to submit this notification and the agency he or she represents, and describe the circumstances relating to the order.)

Continued on additional page(s)

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

8. PROJECT LOCATION

A. Address or description of project location. (Include a map that marks the location of the project with a reference to the nearest city or town, and provide driving directions from a major road or highway)				
The Project is located in eastern Riverside County, between the communities of Blythe, California (approximately 25 miles east of the Project site) and Desert Center, California (approximately 27 miles west of the Project site). The Project is located in Township 6S Range 18E and Township 6S Range 19E, San Bernardino Base and Meridian. The Project area is shown on the Ford Dry Lake and McCoy Spring United States Geological Survey (USGS) topographic maps.				
Genesis Solar, LLC has applied for a 4,640-acre right-of-way (ROW) grant from the Bureau of Land Management (BLM) for development of the Project. Once constructed, the Project would permanently occupy approximately 1,800 acres within this area (the Project footprint), plus approximately 90 acres for linear facilities. The land around the Project site is predominantly owned and managed by the BLM. All vehicular traffic approaching the site will use I-10. Site access will be provided via a new paved road that will connect the I-10 intersection at Wile's Well Road with the Project site.				
Please refer to Attachment 1 for maps of the project location.				
<input checked="" type="checkbox"/> Continued on additional page(s)				
B. River, stream, or lake affected by the project.		Multiple unnamed ephemeral washes (see Attachment 2)		
C. What water body is the river, stream, or lake tributary to?		Ford Dry Lake watershed		
D. Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts?			<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
E. County			Riverside	
F. USGS 7.5 Minute Quad Map Name		G. Township	H. Range	I. Section
Ford Dry Lake & McCoy Spring		6S	18E & 19E	see Att #2, Table 1-1
<input checked="" type="checkbox"/> Continued on additional page(s)				
K. Meridian (check one)		<input type="checkbox"/> Humboldt <input type="checkbox"/> Mt. Diablo <input checked="" type="checkbox"/> San Bernardino		
L. Assessor's Parcel Number(s)				
See Attachment # 3				
<input checked="" type="checkbox"/> Continued on additional page(s)				
M. Coordinates (If available, provide at least latitude/longitude or UTM coordinates and check appropriate boxes)				
Latitude/Longitude	Latitude:		Longitude:	
	33.666307		-114.994725	
		<input type="checkbox"/> Degrees/Minutes/Seconds	<input checked="" type="checkbox"/> Decimal Degrees	<input type="checkbox"/> Decimal Minutes
UTM	Easting:		Northing:	
	685918		3726974	
		<input type="checkbox"/> Zone 10		<input checked="" type="checkbox"/> Zone 11
Datum used for Latitude/Longitude or UTM		<input type="checkbox"/> NAD 27		<input checked="" type="checkbox"/> NAD 83 or WGS 84

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

9. PROJECT CATEGORY AND WORK TYPE (Check each box that applies)

PROJECT CATEGORY	NEW CONSTRUCTION	REPLACE EXISTING STRUCTURE	REPAIR/MAINTAIN EXISTING STRUCTURE
Bank stabilization – bioengineering/recontouring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bank stabilization – rip-rap/retaining wall/gabion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boat dock/pier	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boat ramp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Channel clearing/vegetation management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Culvert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Debris basin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diversion structure – weir or pump intake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filling of wetland, river, stream, or lake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Geotechnical survey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat enhancement – revegetation/mitigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Levee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low water crossing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Road/trail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sediment removal – pond, stream, or marina	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storm drain outfall structure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporary stream crossing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utility crossing : Horizontal Directional Drilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jack/bore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Open trench	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify): Solar Energy Generation Project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

10. PROJECT DESCRIPTION

A. Describe the project in detail. Photographs of the project location and immediate surrounding area should be included.

- Include any structures (e.g., rip-rap, culverts, or channel clearing) that will be placed, built, or completed in or near the stream, river, or lake.
- Specify the type and volume of materials that will be used.
- If water will be diverted or drafted, specify the purpose or use.

Enclose diagrams, drawings, plans, and/or maps that provide all of the following: site specific construction details; the dimensions of each structure and/or extent of each activity in the bed, channel, bank or floodplain; an overview of the entire project area (i.e., "bird's-eye view") showing the location of each structure and/or activity, significant area features, and where the equipment/machinery will enter and exit the project area.

Genesis Solar, LLC, proposes to construct, own, and operate the Genesis Solar Energy Project (Project). The Project is a concentrating solar electric generating facility that would be located in Riverside County. The Project consists of two adjacent solar electric generating facilities with a nominal net electrical output of 125 megawatts (MW) each, for a total net electrical output of 250 MW. Electrical power would be produced using parabolic trough technology and steam turbine generators fed from solar steam generators. The solar steam generators receive heated transfer fluid from solar thermal equipment comprised of arrays of parabolic mirrors that collect energy from the sun.

The power block (i.e., where the steam turbine generator will be located) and solar arrays would occupy approximately 1,800 acres of the requested 4,640-acre right-of-way (ROW) grant from the Bureau of Land Management (BLM); the linear facilities would occupy approximately 90 acres.

The transmission line, access road, and natural gas pipeline will be co-located in one linear corridor to serve the main plant site. This corridor would exit the facility to the south and would be approximately 6.5 miles long. The generation tie-line would cross Interstate 10 (I-10), and tie into the Blythe Energy Project Transmission Line. The generation tie-line would use the existing pole structures of the Blythe Energy Transmission Line to interconnect with the proposed Colorado River Substation to the east.

Construction plans are to clear and grade the site with heavy equipment to provide a uniform gently southwest sloping grade and to construct drainage channels and roads. The total site earth work quantities for the Project site, including the evaporation and retention ponds excavations and protective berm fill placement, will result in a balanced cut-and-fill earthwork of approximately 712,000 cubic yards of cut and 1 million cubic yards of fill, based on the preliminary site design and layout.

Please refer to Attachment 1 for Project plans and a more detailed Project description.

Continued on additional page(s)

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

Construction equipment will include earthmoving and support equipment such as graders, scrapers, bulldozers, backhoes, augers, water and dump trucks.

Continued on additional page(s)

C. Will water be present during the proposed work period (specified in box 4.D) in the stream, river, or lake (specified in box 8.B).

Yes No (Skip to box 11)

D. Will the proposed project require work in the wetted portion of the channel?

Yes (Enclose a plan to divert water around work site)
 No

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

11. PROJECT IMPACTS

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

The entire study area is crossed by numerous ephemeral washes ranging from small, weakly expressed erosional features to broad (over 10 feet wide) channels. Project Construction will result in the diversion of on-site flows around and through the site. Table C1 in Attachment 2 provides a summary of the ephemeral washes that would be affected by Project construction and operation.

Continued on additional page(s)

B. Will the project affect any vegetation? Yes (Complete the tables below) No

Vegetation Type	Temporary Impact	Permanent Impact
Sonoran Creosote Bush Scrub	Linear feet: <u> N/A </u> Total area: <u> 17.86 </u>	Linear feet: <u> N/A </u> Total area: <u> 43.93 </u>
Stabilized and Partially Stabilized Sand Dunes	Linear feet: <u> 0 </u> Total area: <u> 0 </u>	Linear feet: <u> N/A </u> Total area: <u> 20.91 </u>

Tree Species	Number of Trees to be Removed	Trunk Diameter (range)
Ironwood	3	Greater than 4 inches
Palo Verde	271	Greater than 4 inches
Honey Mesquite	22	Greater than 4 inches

Continued on additional page(s)

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

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

Desert Tortoise (*Gopherus agassizii*)

Continued on additional page(s)

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

Genesis Solar Energy Project Application for Certification (09-AFC-08) submitted to the CEC 8/13/09; Genesis Solar Energy Project Application for incidental Take Permit submitted to CDFG

Continued on additional page(s)

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

Yes (Enclose the biological study) No

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

F. Has a hydrological study been completed for the project or project site?

Yes (Enclose the hydrological study) No

Note: A hydrological study or other information on site hydraulics (e.g., flows, channel characteristics, and/or flood recurrence intervals) may be required to evaluate potential project impacts on hydrology.

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

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

A. Describe the techniques that will be used to prevent sediment from entering watercourses during and after construction.

Overall, the Project will result in disturbance of approximately 1,800 acres, including both permanent and temporary disturbance at the plant site. A Drainage, Erosion and Sediment Control Plan (Attachment 4), which includes a construction phase Storm Water Pollution Prevention Plan (SWPPP), describes a series of management controls and Best Management Practices (BMPs) to minimize erosion and impacts to drainage.

Continued on additional page(s)

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

Please see Attachment 5 for a description of avoidance and mitigation measures.

Continued on additional page(s)

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

Please see Attachment 6 for a description of compensation measures.

Continued on additional page(s)

13. PERMITS

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

- A. California Energy Commission Certification Applied Issued
- B. BLM Right-of-Way Grant Applied Issued
- C. CDFG Incidental Take Permit Applied Issued
- D. Unknown whether local, state, or federal permit is needed for the project. (Check each box that applies)

Continued on additional page(s)

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

14. ENVIRONMENTAL REVIEW

A. Has a draft or final document been prepared for the project pursuant to the California Environmental Quality Act (CEQA), National Environmental Protection Act (NEPA), California Endangered Species Act (CESA) and/or federal Endangered Species Act (ESA)?

Yes (Check the box for each CEQA, NEPA, CESA, and ESA document that has been prepared and enclose a copy of each)
 No (Check the box for each CEQA, NEPA, CESA, and ESA document listed below that will be or is being prepared)

Notice of Exemption Mitigated Negative Declaration NEPA document (type): EIS
 Initial Study Environmental Impact Report CESA document (type): Incidental Take
 Negative Declaration Notice of Determination (Enclose) ESA document (type): Biological Opinion
 THP/ NTMP Mitigation, Monitoring, Reporting Plan

B. State Clearinghouse Number (if applicable)

C. Has a CEQA lead agency been determined? Yes (Complete boxes D, E, and F) No (Skip to box 14.G)

D. CEQA Lead Agency California Energy Commission

E. Contact Person Mike Monasmith F. Telephone Number 916-654-4894

G. If the project described in this notification is part of a larger project or plan, briefly describe that larger project or plan.
Not applicable

Continued on additional page(s)

H. Has an environmental filing fee (Fish and Game Code section 711.4) been paid?

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

Note: If a filing fee is required, the Department may not finalize a Lake or Streambed Alteration Agreement until the filing fee is paid.

15. SITE INSPECTION

Check one box only.

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

I request the Department to first contact (insert name) Allison Shaffer, Project Manager, BLM at (insert telephone number) 760-833-7104 to schedule a date and time to enter the property where the project described in this notification will take place. I understand that this may delay the Department's determination as to whether a Lake or Streambed Alteration Agreement is required and/or the Department's issuance of a draft agreement pursuant to this notification.

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

16. DIGITAL FORMAT

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

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

No

17. SIGNATURE

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



Signature of Applicant or Applicant's Authorized Representative

January 11, 2010

Date

Tricia Bernhardt

Print Name

**Survey for
Jurisdictional Waters and Wetlands
at the
Genesis Solar Energy Project
Eastern Riverside County, California**

Prepared by:



TETRA TECH EC, INC.

Tetra Tech EC, Inc.
1940 E. Deere Avenue, Suite 200
Santa Ana, CA 92705

Prepared For:

Genesis Solar, LLC

Revision 2
January 2010

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Appendix A.	Soil Associations and Series Within the Project Area
Appendix B.	Aerial and Field Survey Results Mapsheets
Appendix C.	Field Survey Data
Appendix D.	Downstream Wash Data
Appendix E.	Photograph Log

1.0 INTRODUCTION

Genesis Solar, LLC (Genesis Solar) is proposing to develop a 250-megawatt (MW) solar thermal power generating plant in Riverside County, California (Figure 1-1). Genesis Solar has applied for a 4,640-acre right-of-way (ROW) grant from the Bureau of Land Management (BLM) for development of the Genesis Solar Energy Project (Project). Once constructed, the Project would permanently occupy approximately 1,800 acres within this area (Plant Site), plus approximately 90 acres for linear facilities (collectively referred to as the Project area). The total permanent Project would be approximately 1,890 acres.

This report presents the findings of a field survey for Waters and Wetlands at the Project near Ford Dry Lake. The information provided in this report is intended to serve multiple purposes, including:

- (a) To comply with section 404 of the Clean Water Act (CWA) and to provide the U.S. Army Corps of Engineers (USACE) with sufficient information to make a jurisdictional determination for Waters of the U.S. within the Project area;
- (b) To comply with California Department of Fish and Game (CDFG) Code (Section 1602) and provide information to CDFG to use in evaluating the extent of state jurisdiction in the Project area;
- (c) To provide information that can be used by the Colorado River Regional Water Quality Control Board to issue a CWA 401(c) certification if needed, and;
- (d) To provide information that will inform the Application for Certification for the Project with the California Energy Commission.

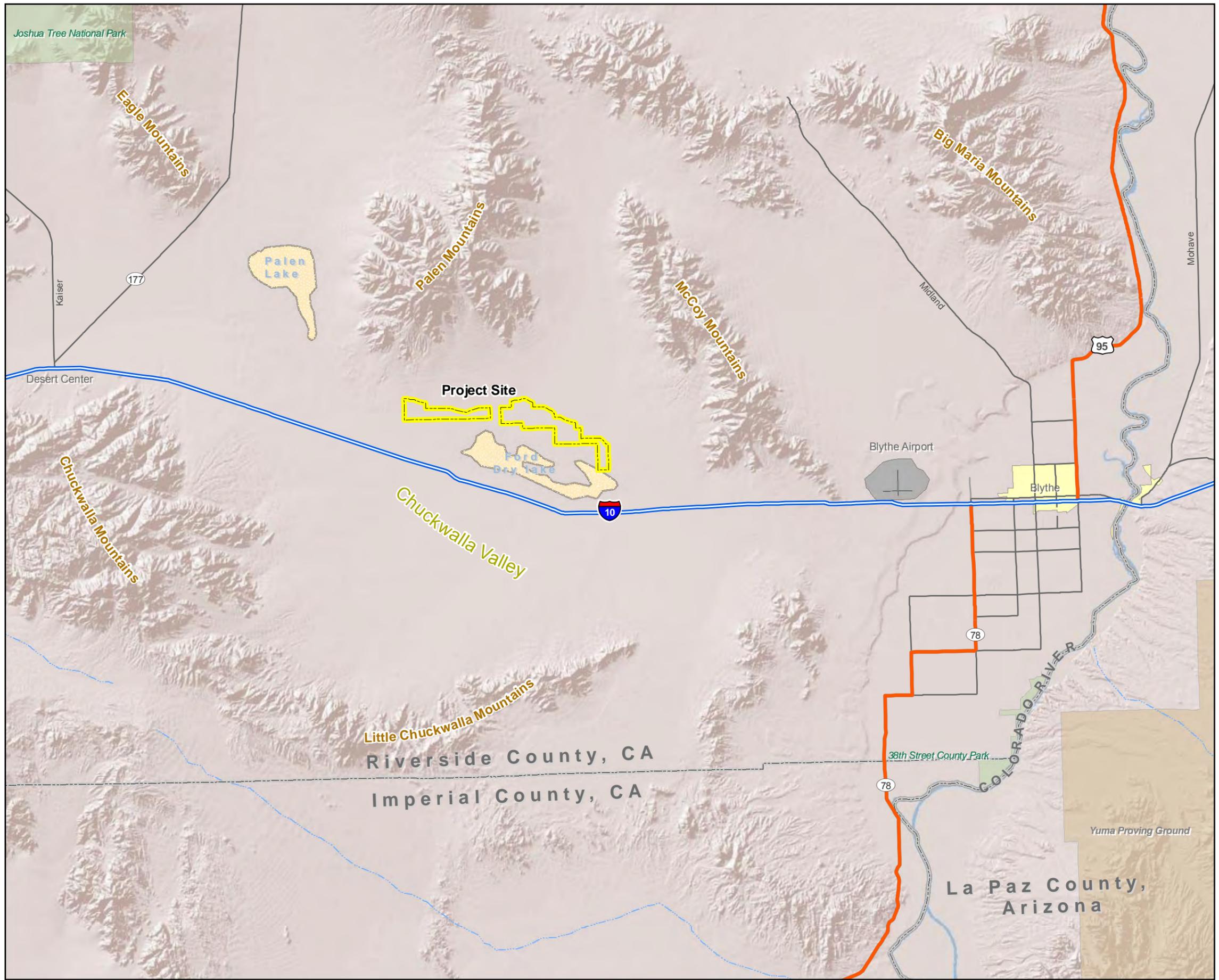
1.1 Project Location

The proposed Project is located approximately 25 miles west of Blythe, California, on lands managed by the BLM (Figure 1-1). Surrounding features include the McCoy Mountains to the east, the Palen Mountains (including the Palen/McCoy Wilderness Area) to the north, and Ford Dry Lake to the south. Interstate 10 (I-10) is located approximately 2 miles south of the proposed solar facility.

Table 1-1 lists the sections and partial sections in the ROW grant application filed with the BLM. The actual Project footprint and the amount of land disturbed (permanent and temporary disturbance) are estimated to be 1,890 acres. The Project will require a transmission line, access road, and natural gas pipeline (linear facilities). The site would be accessed from the Wiley's Well Road exit from I-10 following pipeline maintenance roads and BLM roads.

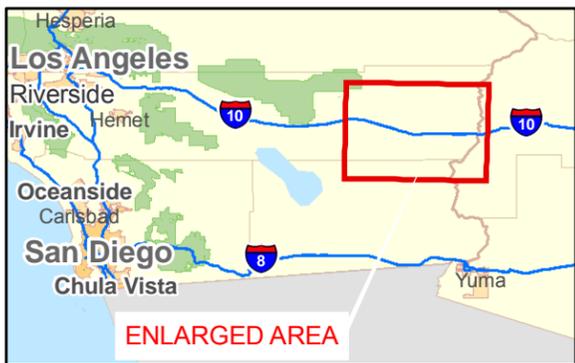
1.2 Environmental Setting

The Project is located in the Chuckwalla Valley in Riverside County, an east-west-trending valley that slopes to the east, has no outlet, and contains several playas, including Ford Dry Lake, which is the lowest in elevation. The mountains to the west that form the drainage divides (Eagle Mountains, Chuckwalla Mountains, and Orocopia Mountains) have greater topographic relief than those to the east, with maximum elevations near or above 4,000 feet above mean sea level (msl). The surrounding mountains to the east (Palen, McCoy, Little Chuckwalla, and Mule) have lower relief and maximum elevations generally below 3,000 feet above msl. Fluvial erosion from surrounding mountains has formed alluvial fan and bajada surfaces leading down to the dry lakes on the valley bottom.



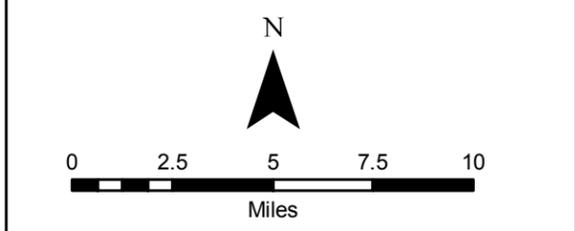
GENESIS SOLAR, LLC

GENESIS SOLAR ENERGY PROJECT
RIVERSIDE COUNTY,
CALIFORNIA



Legend

Project Site	Lake/River
Interstate	Lake Intermittent
Highway	Parks (Regional)
Major Road	Military Installation
Local Road	Urban Areas
County Boundary	Airport Area
State Boundary	



Notes:
 (a) UTM Zone 11, NAD 1983 Projection.
 (b) Source data: ESRI, BLM

FIGURE 1-1
PROJECT LOCATION

TETRA TECH EC, INC.

Table 1-1. Requested BLM ROW

Section	Aliquot	Estimated Acres
Township 6S, Range 19E, San Bernardino Base & Meridian		
4	S ½ except wilderness	260
5	All except wilderness	550
6	SE ¼	160
7	N ½ NE ¼	80
8	NE ¼, N ½ NW ¼	240
9	N ½	320
10	All except wilderness	580
11	SW ¼	160
13	NW ¼ except wilderness; SW ¼	280
14	N ¾, NW ¼, N ¾, NE ¼	240
15	N ½ NW ¼, N ½ NE ¼	160
24	W ½ N ½	160
Subtotal, T6S, R19E		3, 190
Township 6S, Range 18E, San Bernardino Base & Meridian		
1	S ½ except wilderness	290
2	S ½ except wilderness	260
3	S ½	320
4	All except wilderness	580
Subtotal, T6S, R18E		1,450
Total ROW		4,640

1.2.1 Vegetation

The vegetation within the Project area is characterized as two main types: Sonoran Creosote Bush Scrub and Stabilized and Partially Stabilized Sand Dunes (Holland 1986); however, small areas of Chenopod Scrub, Desert Dry Wash Woodland, and Playa (dry lake bed) are found in the Project vicinity. Sonoran Creosote Bush Scrub represents the majority of the survey area, with Stabilized and Partially Stabilized Sand Dunes along the northern portions of the linear facility routes.

Sonoran Creosote Bush Scrub

Creosote Bush Scrub vegetation communities, common in the deserts of Southern California, typically consist of widely scattered shrubs, 0.5 to 3 meters tall and are characterized by the dominance of creosote bush (*Larrea tridentata*) and the lack of trees. Creosote bush scrub occurs mainly on well-drained secondary soils of slopes, fans, and valleys, rather than on sites with thin residual spoils or areas of high soil salinity (Holland and Keil 1995). Creosote bush scrub also occurs on desert pavement surfaces (Sawyer and Keeler-Wolf 1995). Growth occurs during spring, and many species of ephemeral herbs may flower in late March and April if winter rains are sufficient. Other less numerous species of annuals appear following summer thundershowers.

The dominant species in Creosote Bush Scrub are creosote bush, brittle brush (*Encelia farinosa*), and white bursage (*Ambrosia dumosa*). Cheesebush (*Hymenoclea salsola*), big galleta (*Hilaria rigida*), ironwood (*Olneya tesata*), blue palo verde (*Cercidium floridum*), catclaw (*Acacia greggii*), and smoketree (*Psoralea spinosa*) are often present in higher densities along ephemeral washes and arroyos. Creosote bush scrub, with its widely spaced shrubs, provides potential refuge, nesting, and roosting habitat for many desert wildlife species, including birds, reptiles, and mammals.

Stabilized and Partially Stabilized Sand Dunes

A heterogeneous mixture of sand dunes is located along portions of the linear facility route. There are also sandy areas present south of I-10 crossed by the transmission line route. These areas contain low dune formations of fine sand that contain widely spaced perennial shrubs, including creosote bush, white bursage, and galleta grass. Several sand-associated and other annuals are also abundant (e.g., sand verbena [*Abronia villosa*], birdcage primrose [*Oenothera deltoides*], desert marigold [*Baileya pauciradiata*], and narrow-leaved forget-me-not [*Cryptantha angustifolia*]). Although there are no coarse particles in the substrate of the dunes, the areas between the dunes that contain more shrubs may be partially stabilized by a light gravel layer. Drainage is largely by percolation, but where drainages end in the dunes, the sinks are dominated by blue palo verde, with understories of dense galleta grass.

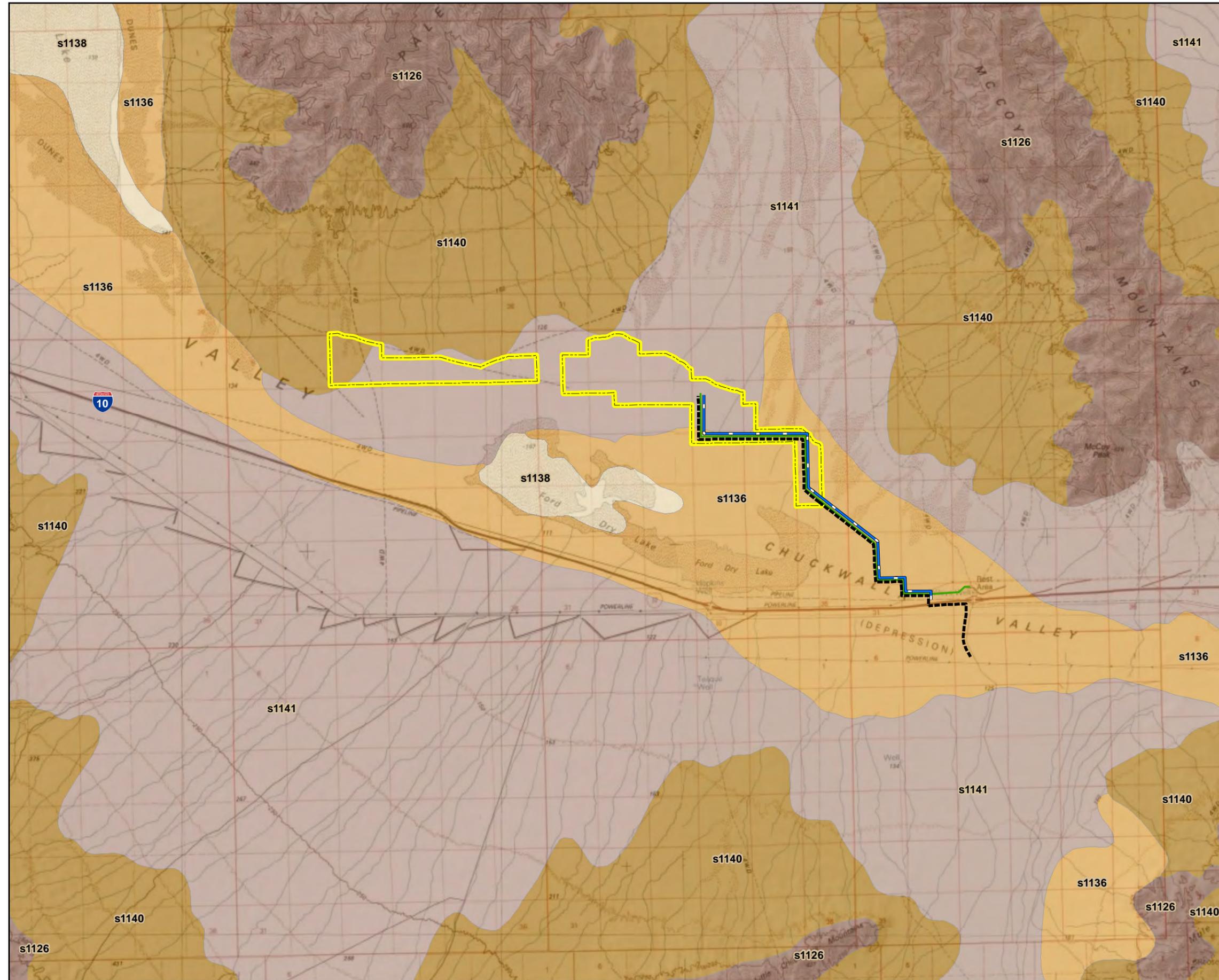
1.2.2 Climate and Hydrology

The Project is located in the Colorado region of the Sonoran Desert. Summer temperatures routinely reach above 100°F (June through September) and annual average precipitation in the Blythe, California, area is less than 4 inches. On average, August receives the most rainfall, although rainfall is also received in the winter months of December, January, and February (Western Regional Climate Center 2008).

The Chuckwalla Valley is a closed basin with two prominent playas: Palen Dry Lake and Ford Dry Lake. Water could theoretically flow from Palen Dry Lake to Ford Dry Lake if it accumulated to a great enough depth. However, under present climatic conditions such overflow is unlikely, so the watersheds to these collection points can be treated as independent. The Project is located in the Ford hydrologic area that is a closed basin with a drainage area of 440,729 acres, or about 690 square miles, of which, more than half is south of I-10 (California Department of Fish and Game, Biogeographic Information and Observation System 2009). The region's low precipitation rate, high evaporation rate, and very permeable soils in the local washes preclude the existence of perennial streams. Nevertheless, when rainfall and runoff do occur, flow in these washes can be substantial, often resulting in localized flash floods with significant potential for erosion.

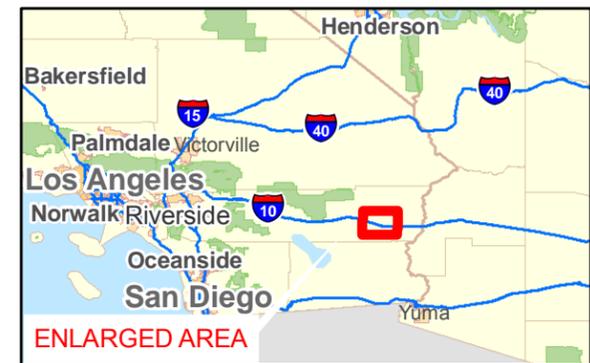
1.2.3 Soil

The soils of the Project area were identified using the State Soil Geographic (STATSGO) database developed by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) (NRCS 2009a) for use in regional, multi-state, river basin, state, and multi-county resource planning. STATSGO spatial data were compiled by combining geologically and topographically related soil series found in county soil surveys into larger map units known as soil associations. These associations provide sufficient detail to establish the physical type and characteristics of soil in the Project area. Soil associations of the Project site are shown on Figure 1-2, and the soil types are described in Appendix A (NRCS 2009b). The western portion of the Project area is comprised of Hyder-Cipriano-Cherioni Association soil (map ID s1141) and the eastern portion is Rosita-Dune Land-Carista Association soil (map ID s1136). None of the soil identified in the Project area through these soil associations appears on the list of hydric soil compiled by NRCS (2009c) that are characteristic of wetlands for California.



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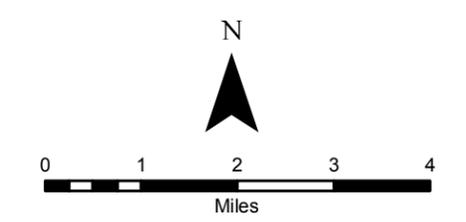


Legend

- Project Site
- Proposed Access
- Proposed Gas Line
- Proposed Transmission Interconnection

Regional Soil Associations

- s1126
- s1136
- s1138
- s1140
- s1141



Notes:
(a) UTM Zone 11, NAD 1983 Projection.
(b) Source data: ESRI, BLM, NRCS

FIGURE 1-2 SOIL MAP



2.0 METHODS

Several steps were taken to identify jurisdictional waters located within the Project disturbance area. First, a site reconnaissance survey and preliminary assessment of water features was conducted from April 6 to April 14, 2009 as part of general biological surveys. Second, prior to field surveys, high-resolution aerial photographs and the Ford Dry Lake and McCoy Spring United States Geological Survey (USGS) 7.5-Minute Quadrangle Maps were used for preliminary identification of potential wetland and water resources in the Project area. "Blue line" streams from USGS maps were overlaid onto aerial photos and potential drainage features were identified by topography and changes in vegetation cover which are indicative of a wash. Third, field surveys were conducted to verify potential wetland and water resources identified by preliminary mapping. Lastly, the delineation was revised in December 2009 using aerial photography to 1) evaluate field-verified drainages to include areas where several small drainages converge 2) evaluate areas downstream of the Plant Site that could potentially be affected by re-routing of water around the Plant Site, and 3) evaluate the currently proposed linear corridor for potential impacts to drainages.

Field surveys to identify jurisdictional waters were conducted from June 30 through July 3, 2009. The total survey area delineated was approximately 3,123 acres and included the proposed disturbance area (1,890 acres), as well as a 500-foot buffer corridor for the linear facility routes. The preliminary data review and site reconnaissance survey identified numerous north-to-south-trending ephemeral drainages. These drainage features were examined in the field to determine if there were bed and bank features that would qualify as jurisdictional. In addition to visiting the potential drainage features identified by the aerial photos, 6 east-west transects averaging 2,500 feet apart were walked within the facility footprint. Transect spacing varied between 950 and 5,900 feet. The northern and southern boundaries of the Plant Site were also surveyed to determine if and where drainage features enter or leaving the site.

Data were recorded in the field at each point where an ephemeral wash was intersected, and drainage features were examined along their length to determine an average width. With the concurrence of the CDFG, isolated drainage features with less than a 3 feet average width and less than 6 inches average depth were not delineated (Kimberly Nicol, pers. comm.). Field verified washes were photographed and recorded using a global positioning device. General characteristics of the wash were recorded as well (including average channel width, evidence of flow, number of jurisdictional trees, and surrounding vegetation type). Each tree that was associated with delineated drainages with a cumulative trunk diameter of at least 4 inches at breast height (DBH) (1602 jurisdictional trees) was individually counted in the field. The exceptions are Wash 24-26 and Wash 31 which were counted utilizing high-resolution aerial photographs following the field survey. Data collected in the field were then incorporated into a geographic information system (GIS) database and data points were plotted on recent 2-foot resolution aerial photographs. Drainage features within the survey area were manually digitized using the field data as reference locations and incorporated into the GIS database.

Following the field surveys and discussions with CDFG and the California Energy Commission (CEC), an aerial photography-based assessment was conducted of potential drainage features downstream of the Plant Site and of the portions of the recently proposed linear alignment that were not covered during field surveys. These drainage features were identified on the basis of vegetation density and color, and the visibility of a possible streambed from an aerial photograph. Bed widths and drainage lengths were estimated using field-verified data compared to aerial photographs. Note that the existence of bed and bank features, and their dimensions if they do exist, cannot be accurately determined by aerial photography alone. For example, many of the areas that were initially thought to have bed and bank features within the plant site boundary based on looking at the aerial photos alone prior to the field visit turned out not to have such

features in the field. Therefore the delineation of the downstream drainages is considered conservative. Acreages of potentially impacted microphyllous vegetation (small leaved trees having an average cumulative trunk DBH of greater than or equal to 4 inches such as palo verde, ironwood, and honey mesquite [*Prosopis glandulosa*]) and drainage features, including those downstream of the Plant Site, were calculated using Geographic Information System (GIS) mapping software. The number and area of trees (microphyllous vegetation) associated with all potential drainage features was determined using aerial photography (Appendix C and D). Areas downstream of linear facilities were not delineated outside of the 500 foot buffer because no downstream impacts are anticipated.

3.0 RESULTS

3.1 Ephemeral Washes

The entire study area is crossed by numerous ephemeral washes ranging from small, weakly expressed erosional features to broad (over 10 feet wide) channels. The active flow channels are generally devoid of vegetation and typically have a sandy-gravel substrate, although some washes also contained cobble and scattered larger rocks. Small- to medium-sized washes are common and widespread throughout the entire Project area. The larger washes tend to dissipate into smaller, more braided channels as they progress downslope. The majority of the channels terminate prior to reaching Ford Dry Lake as well-defined conveyance features diminish and transition into broad, shallow surface flow. All of the ephemeral washes identified in the Project area flow only in response to storm events. .

Twenty-nine drainages were recorded during field surveys in June 2009 (Appendix B, C). In December 2009, the new linear alignment was evaluated using high-resolution aerial photography, and two drainages were identified as crossing the revised linear alignment (Wash 30 and 31, Appendix B, C). Combined temporary and permanent impacts to drainages that cross Project facilities is 82.69 acres. Additionally, in December 2009, 30 potentially jurisdictional washes were identified downstream from the Plant Site by examination of high resolution aerial photographs (Appendix B, D). Photographs of each of the field-verified drainage feature are provided in Appendix E. Several representative photographs of drainage features that did not qualify as jurisdictional are also provided in Appendix E.

3.2 Wash-Associated Vegetation

The majority of washes identified throughout the study area are associated with creosote bush scrub habitat. Species such as white bursage are common in some medium to large-sized washes, especially in braided channels that contain slightly elevated areas intermixed with the active flow channels. The larger washes (typically over 6 feet) that contain sandy, gravelly substrate and well-defined banks typically include big galleta grass and scattered desert wash tree species such as ironwood and palo verde (Table 3-1, Appendix C). Ironwood and palo verde trees are sparsely scattered throughout the Project area and are associated with areas of heavier sheet flow.

Overall tree density is low within the Project area, although Washes 1, 7-10, 24-26, and 30 contain microphyllous vegetation (Appendix C). The microphyllous vegetation identified in these washes consists of three tree species (palo verde, ironwood, and honey mesquite) and totals 16.03 acres. Within the Plant Site, ironwood and palo verde occur in low densities (i.e., Wash 1 and Wash 7-10 have only two trees associated with each wash). However, one wash along the linear facility route, Wash 24-26, has a relatively dense concentration of palo verde trees when compared to the rest of the Project area and contains 270 trees that may be directly impacted by the Project (Appendix C). Wash 31 consists of honey mesquite and is also relatively dense

when compared to the rest of the Project area with 22 trees that may be directly impacted by the Project (Appendix C).

Table 3-1. Ephemeral Wash Plant Species Observed during Surveys

Scientific Name	Common Name	Wetland Indicator ^a	Distribution ^b
<i>Ambrosia dumosa</i>	white bursage	NOL	Abundant
<i>Asclepias erosa</i>	desert milkweed	NOL	Sparse
<i>Brassica tournefortii</i>	Mustard	NOL	Sparse
<i>Cercidium floridum</i>	blue palo verde	NOL	Sparse
<i>Cryptantha angustifolia</i>	forget-me-not	NOL	Common
<i>Hilaria rigida</i>	big galleta	NOL	Scattered
<i>Hymenoclea salsola</i>	Cheesebush	NOL	Sparse
<i>Krameria grayi</i>	white rhatany	NOL	Scattered
<i>Larrea tridentata</i>	creosote bush	NOL	Abundant
<i>Olneya tesota</i>	Ironwood	NOL	Sparse
<i>Plantago ovata</i>	Plantago	NOL	Common
<i>Prosopis glandulosa</i>	honey mesquite	NOL	Sparse
<i>Tamarix parviflora</i>	Tamarisk	FAC	Sparse
<i>Psoralea argophylla</i>	Smoketree	NOL	Sparse

a From National List of Plant Species that Occur in Wetlands, Region 0 [California] (Reed 1988).

FAC = Equally likely to occur in wetlands or nonwetlands.

NOL = Plant species is not included in the 1988 list and is considered to be an upland species = Not on 1988 List.

b Explanation of distribution terms used

Abundant = plants are widespread along the channel and with relatively high cover where present

Common = plants are widespread along the channel with moderate to low cover; occasional locally high cover

Scattered = plants have a patchy distribution throughout along the channel, cover ranges from sparse to locally high

Sparse = plants observed in a few locations with generally sparse cover, not common throughout along the channel

4.0 SUMMARY OF JURISDICTIONAL ASSESSMENT

4.1 Waters of the U.S.

Waters of the U.S. are defined as all navigable waters, including all:

- tidal waters
- interstate waters and wetlands
- other waters such as lakes, rivers, streams (perennial or intermittent), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation, or destruction of which could affect interstate commerce
- impoundments of water mentioned above
- tributaries to waters mentioned above
- territorial seas
- wetlands adjacent to waters mentioned above

Waste treatment systems, including treatment ponds, are not Waters of the U.S. (33 Code of Federal Regulations Section 328.3). Based on the recent guidance issued from USACE Headquarters, jurisdictional Waters of the U.S. include traditional navigable waters (TNWs), all wetlands adjacent to TNWs, non-navigable tributaries of TNWs that are relatively permanent (i.e., tributaries that typically flow year-round or have continuous flow at least seasonally), and wetlands that directly abut such tributaries (USACE 2007). Additionally, jurisdiction is asserted

over water bodies that are not relatively permanent if that body is determined to have a significant nexus with a TNW (USACE 2007).

Under the recent guidance, desert swales defined as “shallow features in the landscape that may convey water across upland areas during and following storm events,” and erosional gullies are generally considered non-jurisdictional features because they are not tributaries nor do they have a significant nexus to a TNW (USACE 2007). In addition, all ephemeral drainages on and around the Project drain into Ford Dry Lake which is an isolated feature that does not meet the definition of a TNW under USACE regulations. Based on current interpretations of the Army Corps jurisdictional authority and the definition of Waters of the U.S., the ephemeral drainage features on site would not be subject to the USACE permit authority under the CWA (33 U.S.C.). In addition, no wetlands were found in the Project area. However, the USACE is ultimately responsible for jurisdictional determinations and this report has been prepared to provide the necessary information to assist the USACE with that determination.

Under the CWA Section 401, every applicant for a federal permit or license for any activity which may result in a discharge to a water body must obtain State Water Quality Certification (Certification) that the proposed activity will comply with state water quality standards. Most Certifications are issued in connection with USACE CWA Section 404 permits. If a 404 permit is not needed, a 401 Certification will not be required.

4.2 Waters of the State

In addition to federal regulation of wetlands and waters, the CDFG monitors streambed alteration to conserve, protect, and manage California’s fish, wildlife, and native plant resources. The CDFG Code (Section 1602) requires any person, state, or local governmental agency, or public utility to notify the CDFG before beginning an activity that will substantially divert, obstruct, or change the natural flow of the bed, channel, or bank (including associated riparian vegetation) of a river, stream, or lake; use material from; or deposit material into a streambed prior to commencement of the activity. Streams include, but are not limited to, intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams, and watercourses with subsurface flow. If CDFG determines that the action could have an adverse affect on existing fish and wildlife resources, a Lake or Streambed Alteration Agreement is required.

Based on the above description and discussions with CDFG, we anticipate that CDFG will take jurisdiction over the Project drainage features (Washes 1-29) identified during field surveys. Additionally, as illustrated in Appendix B and summarized in Appendix C, certain drainages that cross project facilities could be considered components of a single, braided wash system consisting of several smaller drainages. As a result, these drainages were combined and the area was delineated using the banks of the outermost drainages as the boundaries of the combined wash (see Appendix C). The following washes were combined, and it is anticipated that CDFG will take jurisdiction over these combined areas:

- Washes 7 through 10
- Washes 14 through 19
- Washes 24 through 26

Areas downstream of the Plant Site that were delineated solely on aerial photographs are only considered potentially jurisdictional at this time. The Project drainage plan is currently being engineered and will be designed to minimize impacts to drainages delineated downstream of the Project footprint. Additionally, geomorphological studies are underway to assist in understanding the role of ephemeral drainages in sand transport and ultimately sand dune

formation. The drainage design and geomorphological study will be available mid to late January 2010, respectively.

A Notification of Lake or Streambed Alteration will be submitted to the local office of the CDFG to confirm that these drainages are jurisdictional. If the CDFG intends to take jurisdiction over any of the drainages in the project area, a Streambed Alteration Agreement (SAA) will be prepared. The SAA will contain conditions to protect the affected resources.

5.0 FIELD BIOLOGISTS

Amy Bensted, Tetra Tech EC, Inc.

Nathan Mudry, Contributing Author, Environmental and GIS Services, LLC (eGIS)

6.0 REFERENCES

California Department of Fish and Game, Biogeographic Information and Observations System . 2009. Public BIOS data viewer. Accessed at: <http://imaps.dfg.ca.gov/viewers/biospublic/app.asp>.

Clean Water Act (CWA). United States Code (U.S.C.) Title 33.

Code of Federal Regulations Section 328.3, Definition of Waters of the United States, Authority: 33 U.S.C. 1344. Source: 51 FR 41250, Nov. 13, 1986, unless otherwise noted.

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. The Resources Agency. California Department of Fish and Game. 156 pp.

Holland, R.F., and D.J. Keil. 1995. *California Vegetation*. Kendall/Hunt Pub. Co. Dubuque, Iowa. 516 pp.

NRCS (Natural Resources Conservation Service). 2009a. US General Soil Map (STATSGO) Data. Available online at: <http://soildatamart.nrcs.usda.gov/USDGSM.aspx>.

NRCS. 2009b. Official Soils Series Descriptions. Available online at: <http://soils.usda.gov/technical/classification/osd/index.html>.

NRCS. 2009c. Hydric Soils List by State, California. Available online at: ftp://ftp-fc.sc.egov.usda.gov/NSSC/Hydric_Soils/Lists/ca.xls.

Nicol, K. 2009. Personal communication via telephone and e-mail with Derrick Coleman, Tetra Tech EC. Bureau of Land Management, 78-078 Country Club Drive, Suite 109, Bermuda Dunes, CA 92203; 760-200-9158. June 29.

Reed, P.B. 1988. National List of Plant Species that Occur in Wetlands: California (Region 0). United States Fish and Wildlife Service, Washington, D.C.

Sawyer, J., and T. Keeler-Wolf. 1995. *A manual of California vegetation*. California Native Plant Society, Sacramento.

USACE (U.S. Army Corps of Engineers). 2007. U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook. May 30, 2007.

Western Regional Climate Center. 2009. Blythe, CA Airport. <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0927>. Accessed July 21, 2009.

APPENDIX A
SOIL ASSOCIATIONS AND SERIES WITHIN THE PROJECT AREA

Soil Associations and Series Within the Project Area

Association s1126 - Tecopa-Rock outcrop-Lithic Torriorthents		
Soil Series	Slope (% grade)	Characteristics
Tecopa	15 to 75	The Tecopa series consists of very shallow soils formed in residuum and colluvium weathered from quartzite, schists, and gneiss (75 percent of surface is covered with gravel and cobble). Tecopa soils are on low hills and low mountain side slopes with a gradient of 15 to 75 percent. The mean annual precipitation is about 4 to 8 inches and the mean annual air temperature is about 60 degrees F. Vegetation is creosote bush, yucca, cacti, white bursage, Mormon tea and blackbrush.
Rock outcrop		Rock outcrop is not a soil series name but a landform (geomorphic term) indicating that the underlying geologic parent material is exposed at the surface without any unconsolidated sediments or soils covering it. By definition, this landform does not have any associated soils.
Lithic Torriorthents		Lithic Torriorthent is not a soil series but a generic soil type whose "order" is Entisol (a young soil), suborder is "Orthent" (formed on recent erosional surfaces), great group is "Torriorthent" (dry or salty, arid locations), and has a "Lithic" descriptor meaning it has near-surface parent material. The Tecopa soil series is a Lithic Torriorthent type soil.

Association s1136 - Rositas-Dune land-Carsitas		
Soil Series	Slope (% grade)	Characteristics
Rositas	0 to 30	The Rositas series consists of very deep, somewhat excessively drained soils formed in sandy eolian material blown from recent alluvium. Rositas soils are on dunes and sand sheets. Somewhat excessively drained; negligible to medium runoff; rapid permeability. Rositas soils are used for growing citrus fruits, grapes, alfalfa, and truck crops. Native vegetation creosote bush, white bursage, desert buckwheat and mesquite.
Dune land		Dune land is not a soil series name but a landform (geomorphic term) indicating an aeolian collection of primarily sand-sized sediment. Due to the nature of this landform, soil formation does not commonly occur where an active dune exists.
Carsitas		Carsitas soils are nearly level to strongly sloping and are on alluvial fans, moderately steep valley fills and dissected remnants of alluvial fans, at elevations of about 220 feet below sea level to 800 feet above sea level. The climate is one of long, hot dry summers and short mild dry winters with an average annual precipitation of less than 5 inches. Torrential summer thundershowers occasionally produce enough runoff to flood the soil for brief periods. Vegetation is a sparse growth of creosote bush, white bursage, barrel cactus, mesquite, and palo verde. Where irrigation water is available, the soils are used for growing citrus fruits and grapes.

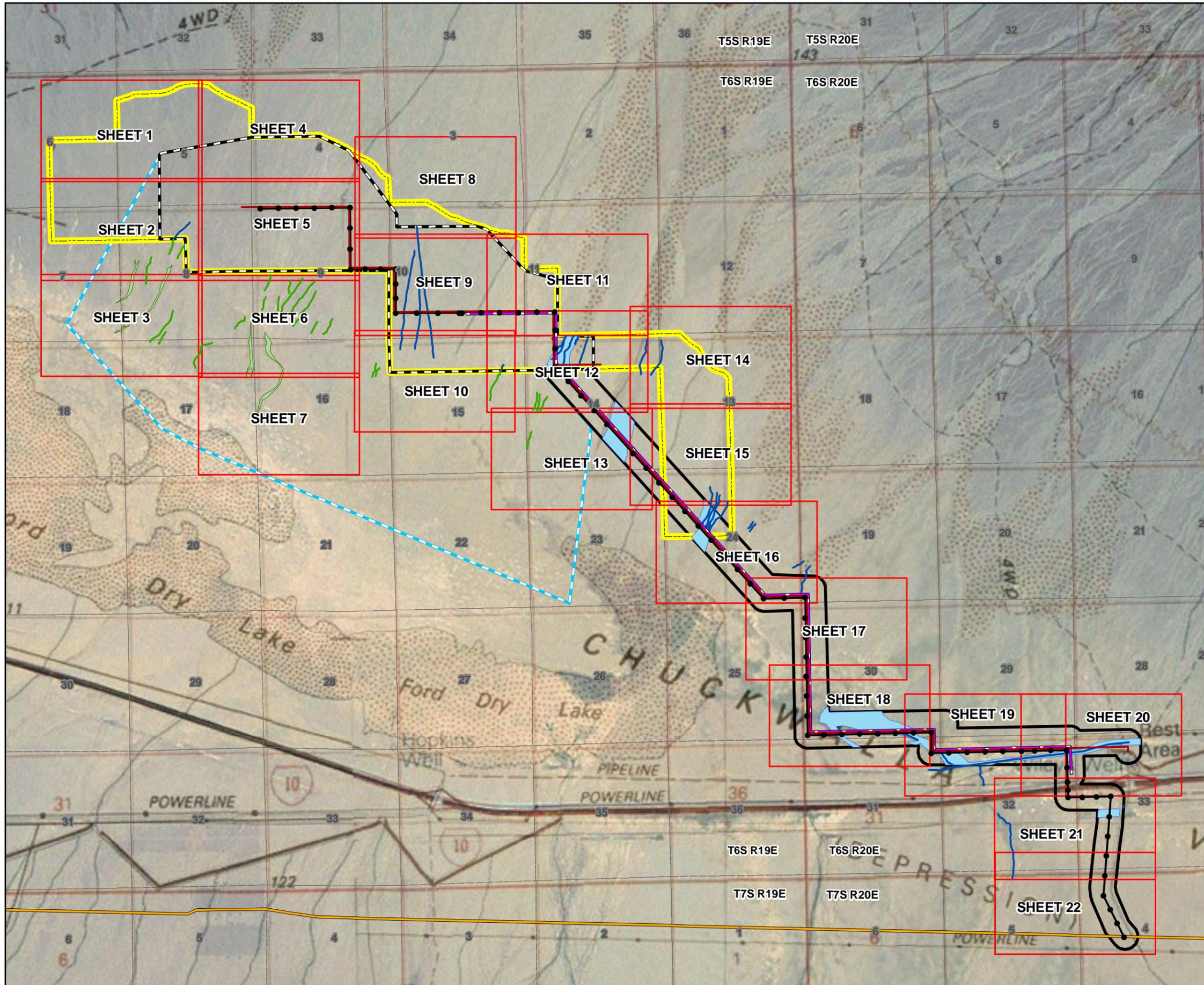
Association s1138 - Playas		
Soil Series	Slope (% grade)	Characteristics
Playa		Playa is not a soil series name but a landform (geomorphic term) indicating an ephemeral lake that is located at the low point of an internally drained basin, i.e., a watershed with no outlet. Due to the nature of this landform soil formation does not commonly occur where a playa exists.

Soil Associations and Series Within the Project Area

Association s1140 - Rillito-Gunsight		
Soil Series	Slope (% grade)	Characteristics
Rillito	0 to 5	The Rillito series consists of very deep, somewhat excessively drained soils that formed in mixed alluvium. Rillito soils are on fan terraces or stream terraces. Somewhat excessively drained; slow or medium runoff; moderate permeability. Vegetation is mainly creosote bush, desert sage, cacti, mesquite, palo verde, ironwood, and annual grasses and weeds.
Gunsight	1 to 40	The Gunsight series consists of very deep, somewhat excessively drained, strongly calcareous soils that formed in alluvium from mixed sources. Gunsight soils are on fan terraces or stream terraces. Somewhat excessively drained; medium runoff; moderate or moderately rapid permeability. The vegetation is creosotebush, ocotillo, paloverde, saguaro, cholla and triangle bursage.

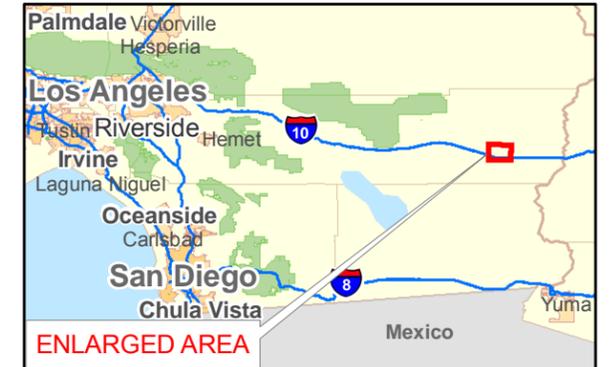
Association s1141 - Vaiva-Quilotosa-Hyder-Cipriano-Cherioni		
Soil Series	Slope (% grade)	Characteristics
Vaiva	1 to 65	The Vaiva series consists of very shallow and shallow, well drained soils formed in slope alluvium from granite and gneiss. Vaiva soils are on hills and mountains with slopes of 1 to 65 percent. The mean annual precipitation is about 7 inches and the mean annual air temperature is about 71 degrees F. Vegetation is saguaro, littleleaf palo verde, creosote bush, ocotillo, ironwood, triangle bursage, staghorn cholla, spicebush, false mesquite, wolfberry, bush muhly, brittlebush and ratany.
Quilotosa	3 to 65	The Quilotosa series consists of very shallow and shallow, somewhat excessively drained soils that formed from granitic and metamorphic rocks. Quilotosa soils are on hills and mountains and have slopes of 3 to 65 percent. The mean annual precipitation is about 7 inches and the mean annual air temperature is about 70 degrees F. Vegetation is saguaro, littleleaf palo verde, brittlebush, creosote bush, ocotillo, ironwood, triangle bursage, white bursage, cholla, forbs and grasses.
Hyder	1 to 65	The Hyder series consists of very shallow to shallow, somewhat excessively drained soils that formed in alluvium from rhyolite and related volcanic rocks. Hyder soils are on mountains and hills. Somewhat excessively drained; medium to rapid runoff; moderate or moderately rapid permeability. The native vegetation is creosote bush, white bursage, brittlebush, buckhorn cholla, and littleleaf palo verde.
Cipriano	0 to 55	The Cipriano series consists of shallow and very shallow to hardpan, somewhat excessively drained soils that formed in fan alluvium from volcanic rock. Cipriano soils are on fan terraces. Somewhat excessively drained: slow to medium runoff; moderate permeability. Present vegetation is creosote bush, palo verde, staghorn and chainfuit eholla, saguaro, ocotillo, and triangle bursage with some fluffgrass and six weeks grama.
Cherioni	0 to 70	The Cherioni series consists of very shallow and shallow, somewhat excessively drained soils that formed in slope alluvium on volcanic bedrock. Cherioni soils are on fan terraces or hills. Somewhat excessively drained; medium to rapid runoff; moderate permeability. Present vegetation is creosote bush, palo verde, saguaro, cholla, ocotillo, triangleleaf bursage and ratany.

APPENDIX B
AERIAL AND FIELD SURVEY RESULTS MAPSHEETS



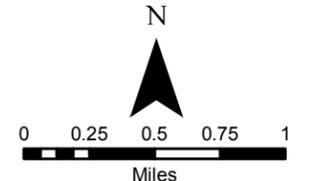
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GENESIS SOLAR ENERGY PROJECT RIVERSIDE COUNTY, CALIFORNIA



Legend

- Transmission Interconnect Structure
- Access Road
- Gas Line
- Transmission Interconnect
- Blythe Transmission Line
- ▭ BLM Requested ROW
- ▭ Facility Footprint
- ▭ Linear Facility Survey Area
- ▭ Section Line
- ▭ 1:4800 Detail Map Sheet
- June 2009 Field Verified Jurisdictional Waters of the State
- December 2009 Aerial Map Survey
 - ▭ Jurisdictional Waters of the State (Field Verified)
- December 2009 - Aerial Map Survey
 - ▭ Jurisdictional Waters of the State (Potential)
 - ▭ Jurisdictional Waters of the State (Potential)
 - ▭ Downstream Wash Evaluation Area (Aerial Mapping)



Notes:
 (a) UTM Zone 11, NAD 1983 Projection.
 (b) Source data: ESRI, BLM, eGIS, TTEC

WATERS EVALUATION INDEX MAP



N



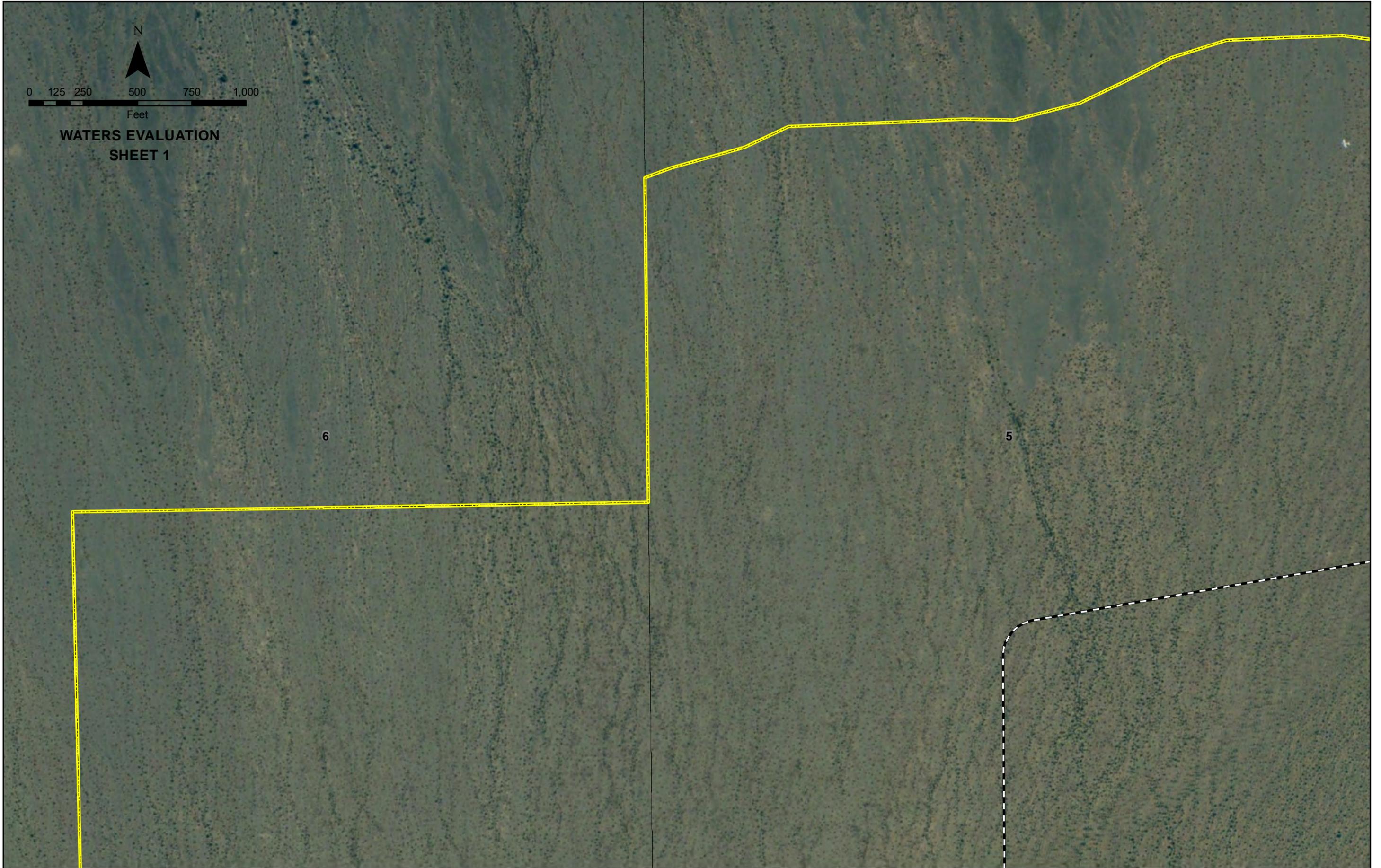
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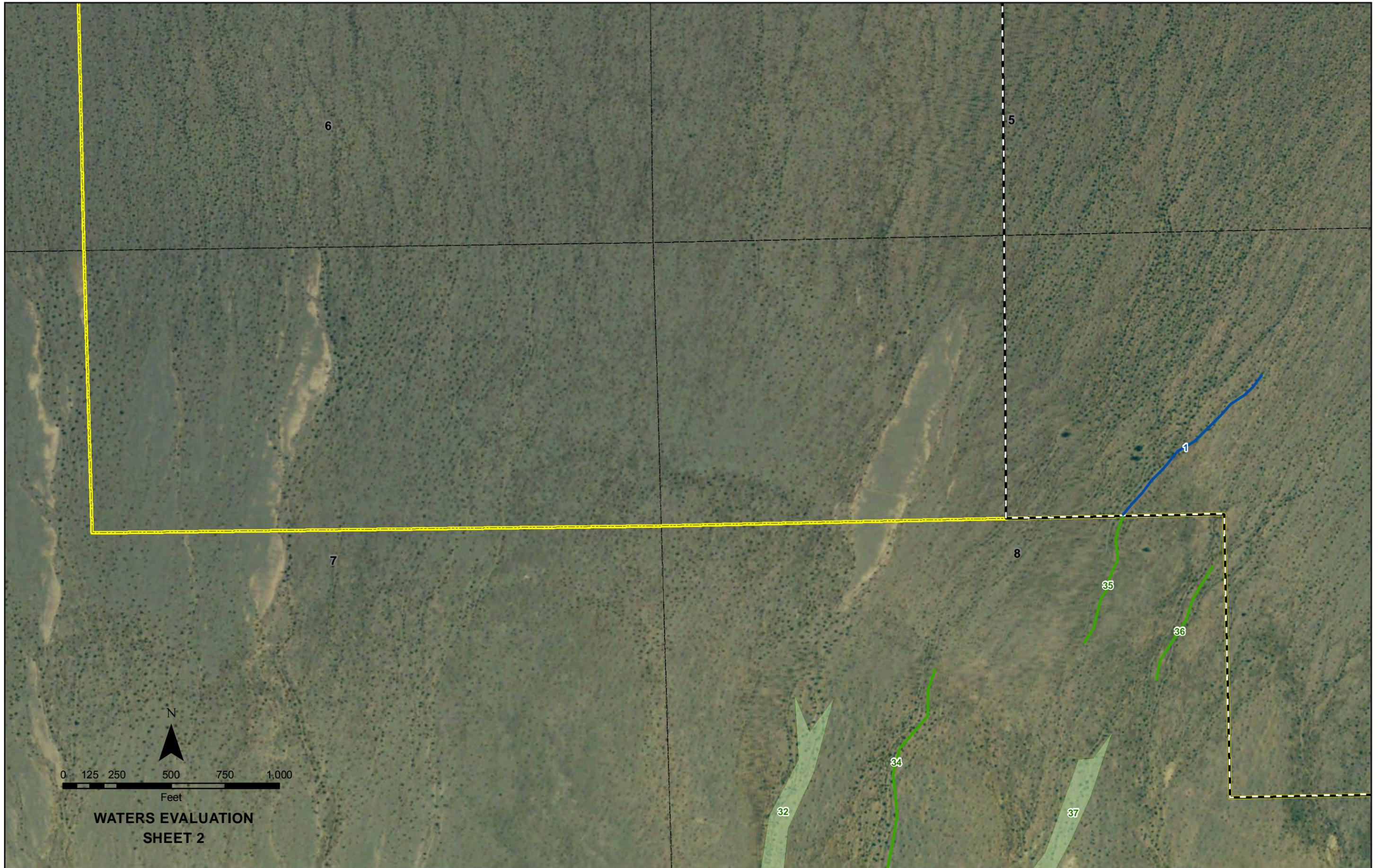
Feet

**WATERS EVALUATION
SHEET 1**

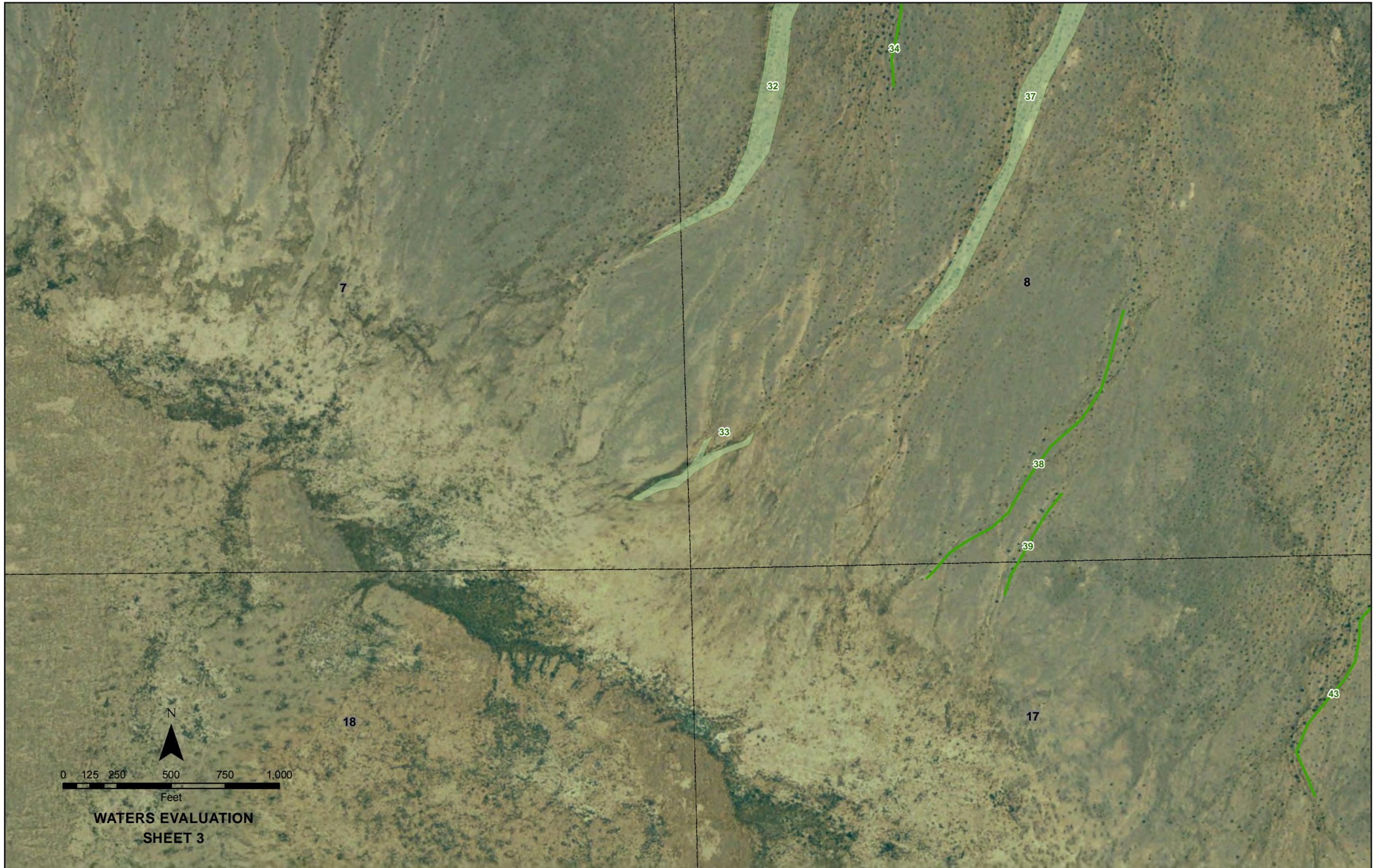
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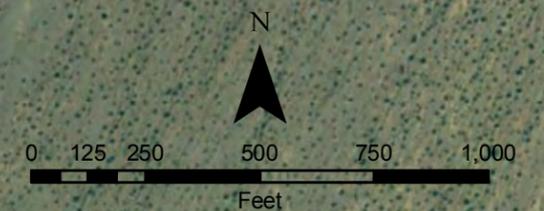




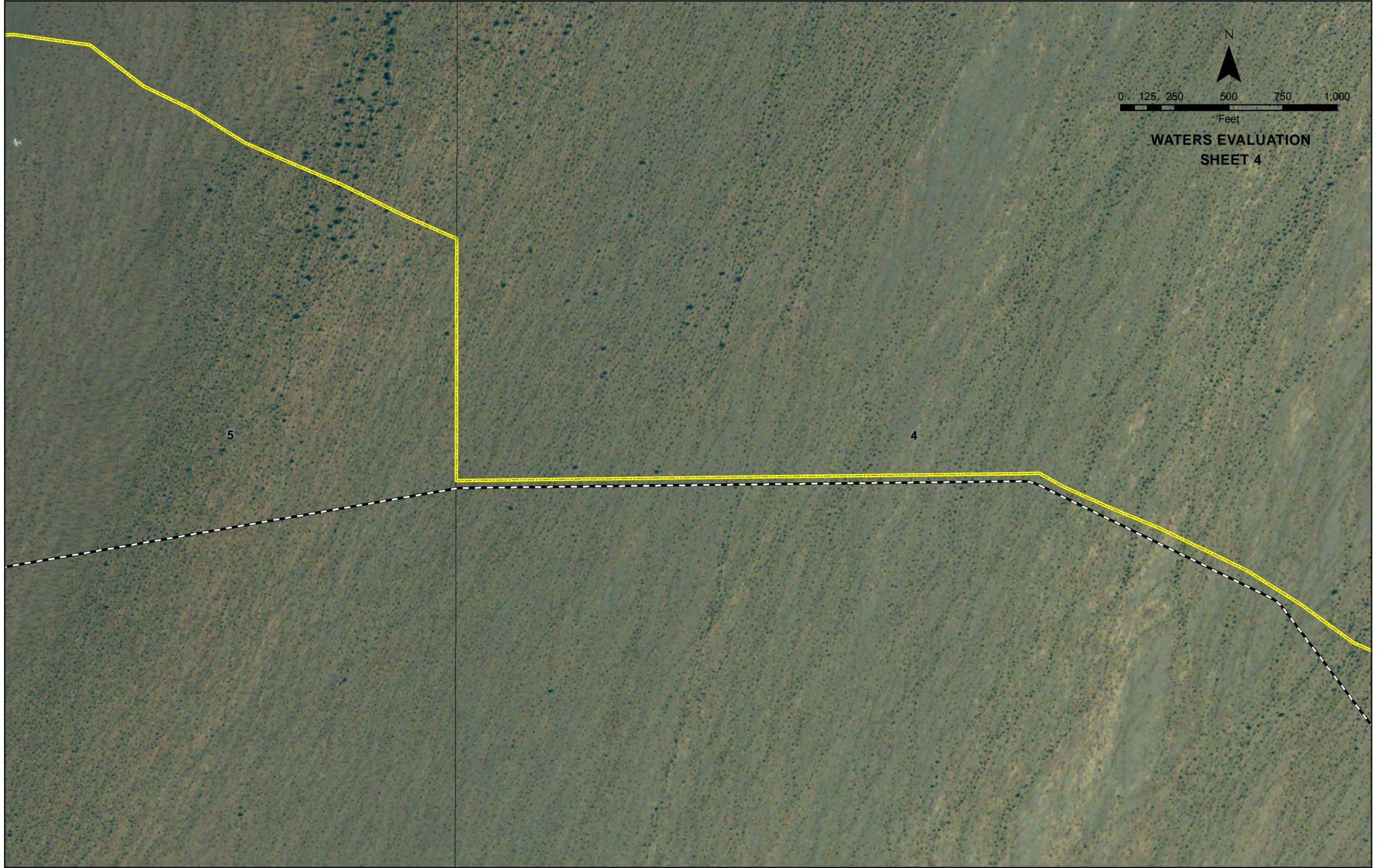
**WATERS EVALUATION
SHEET 2**



**WATERS EVALUATION
SHEET 3**

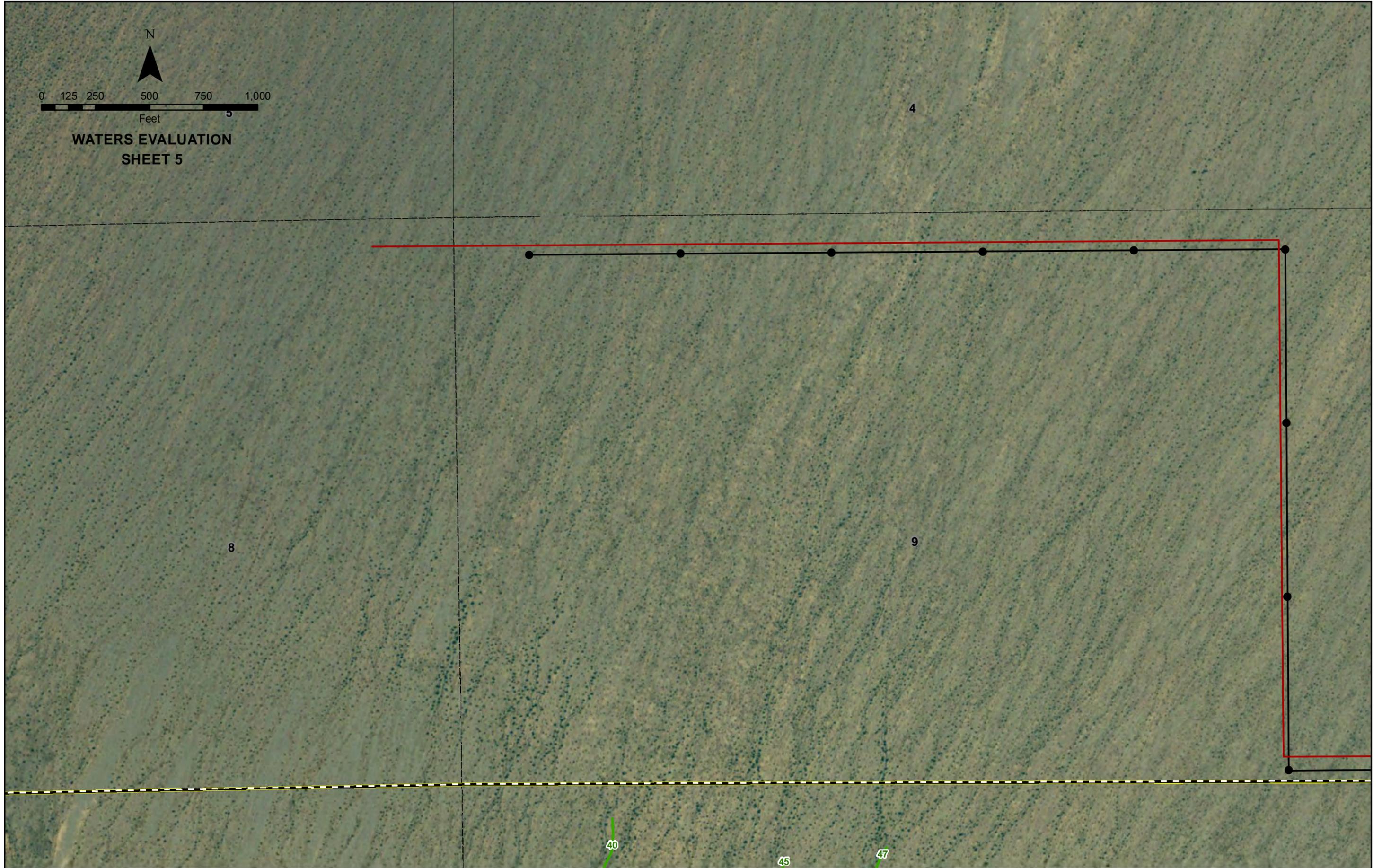


**WATERS EVALUATION
SHEET 4**





**WATERS EVALUATION
SHEET 5**



4

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9

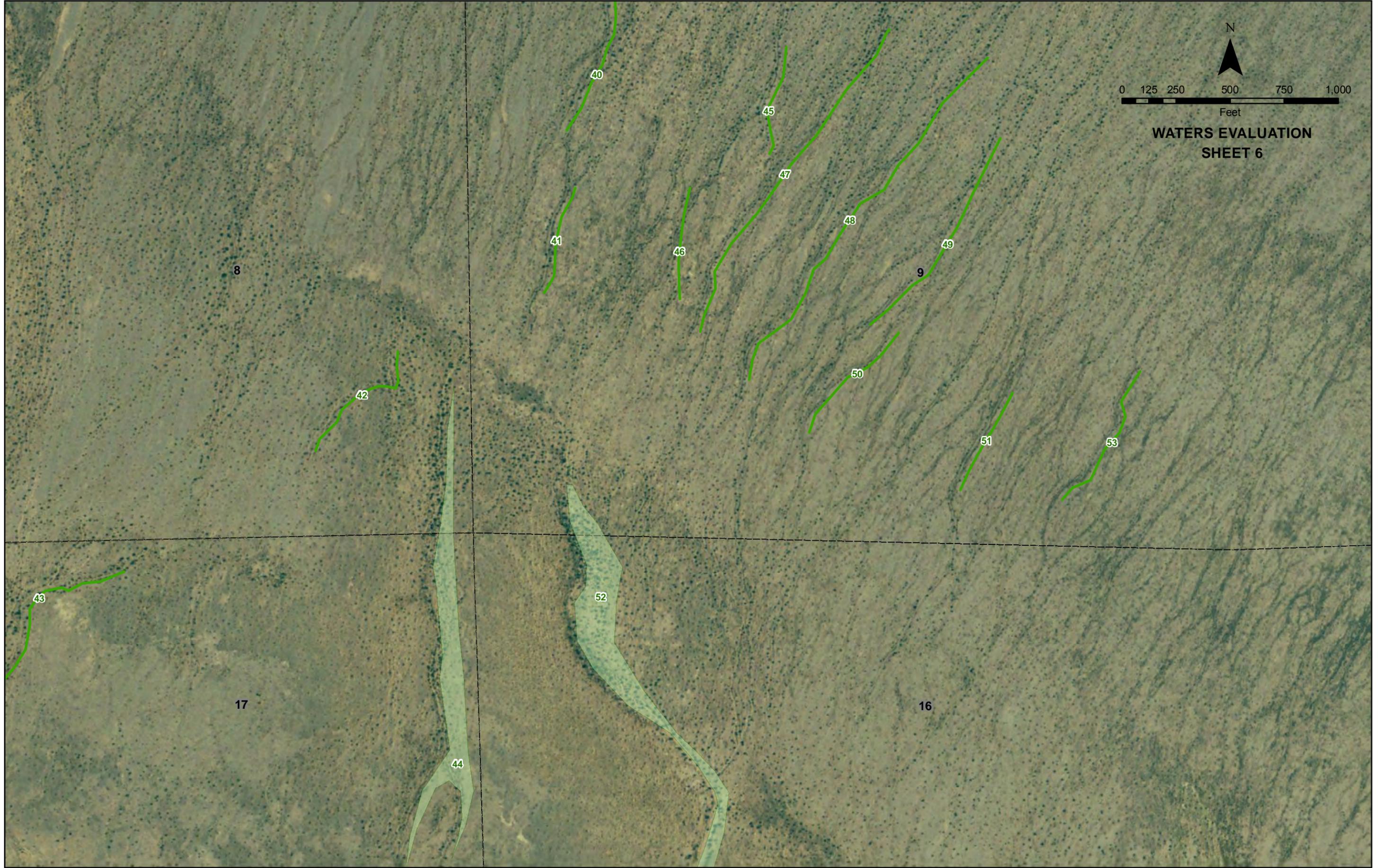
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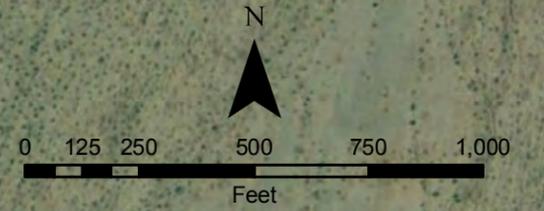
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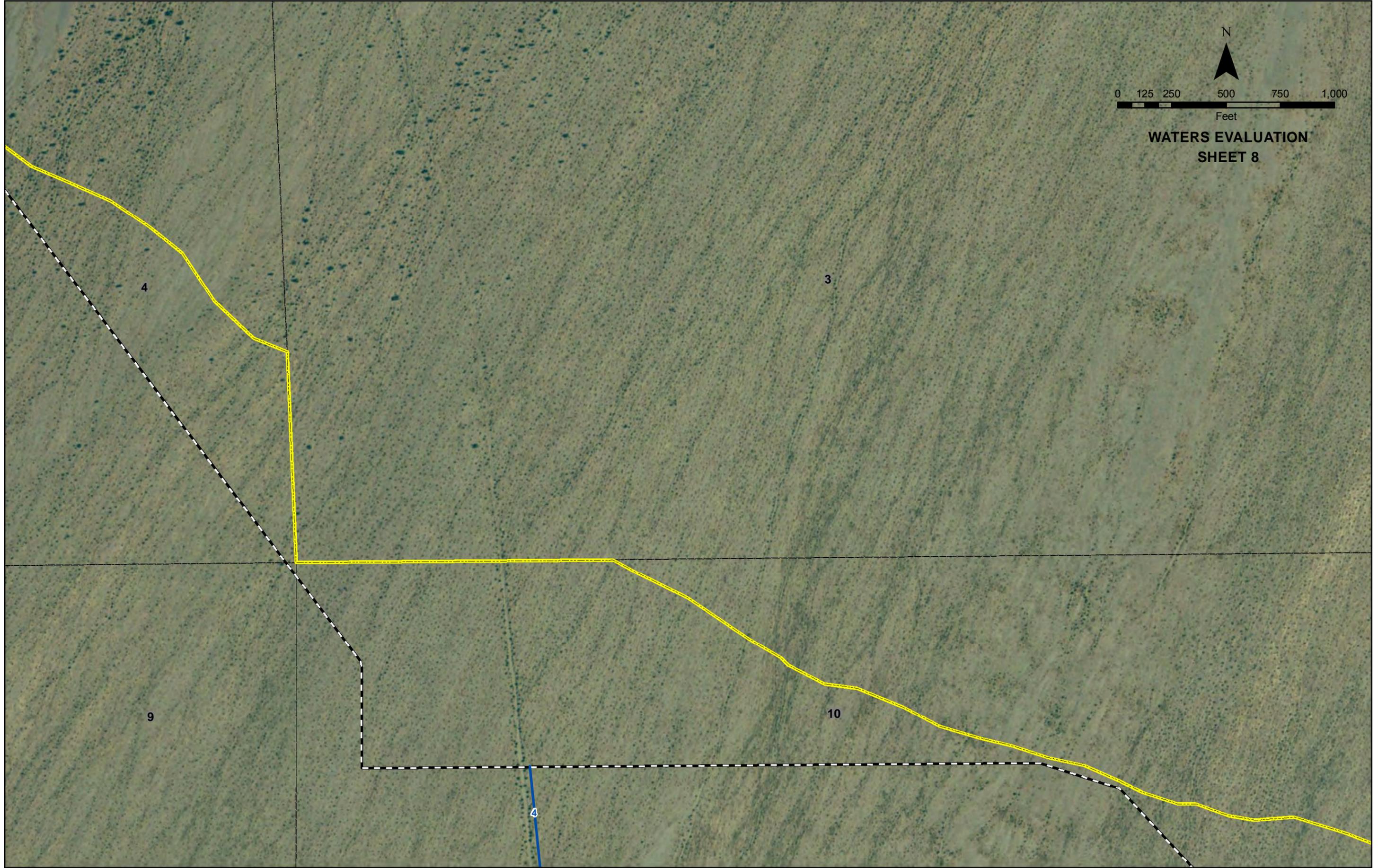
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SHEET 6**

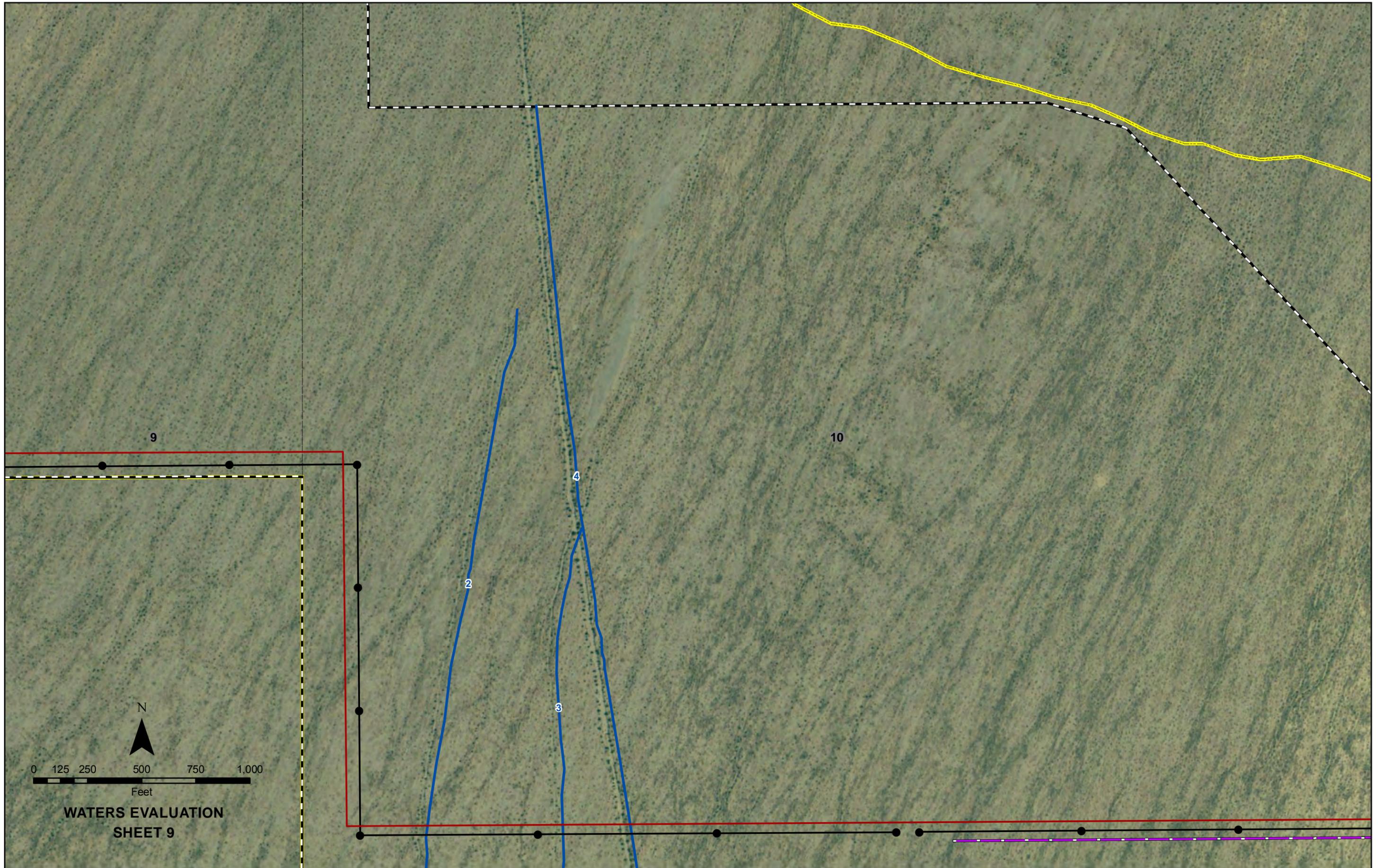






**WATERS EVALUATION
SHEET 8**





**WATERS EVALUATION
SHEET 9**



**WATERS EVALUATION
SHEET 10**

N



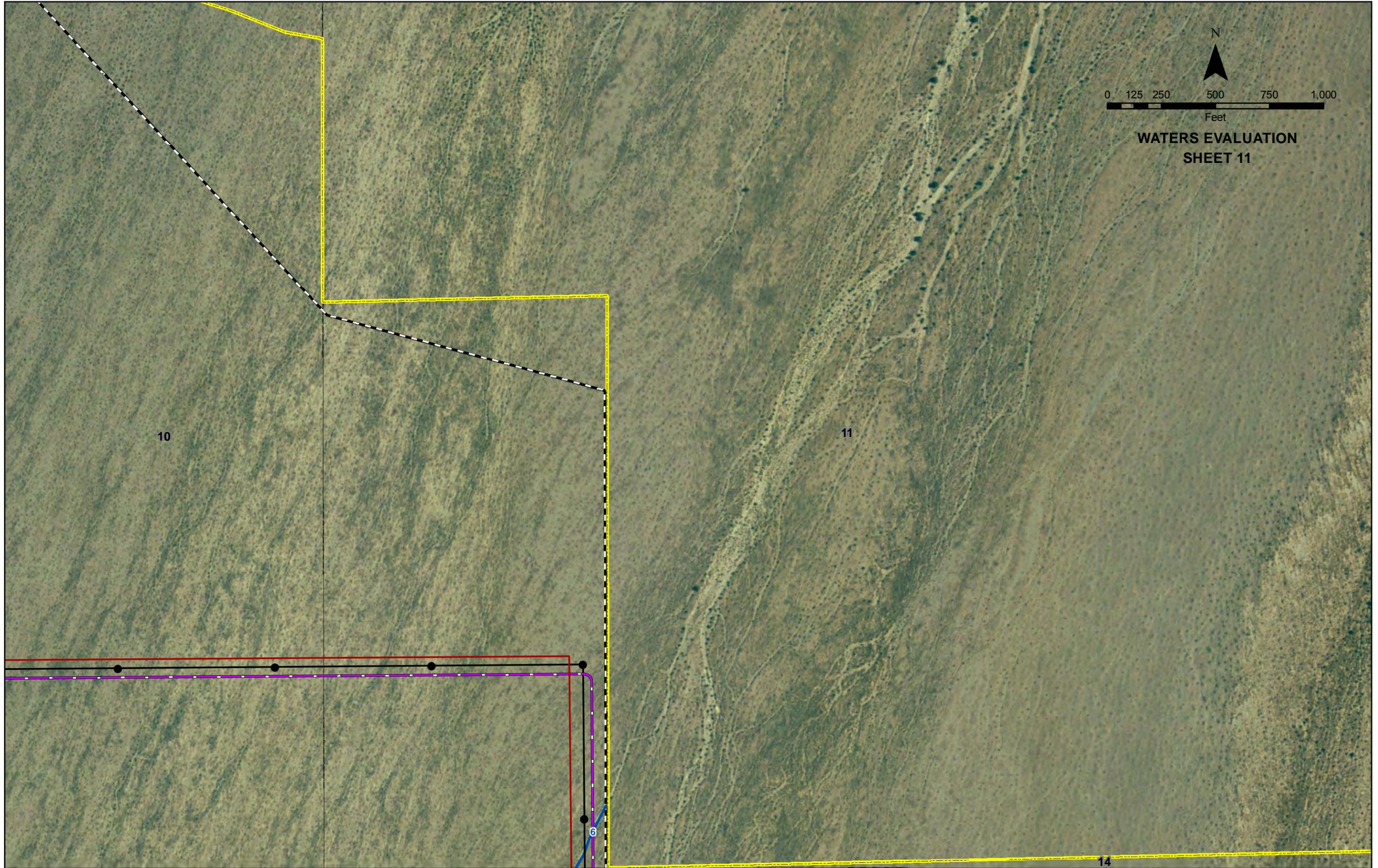
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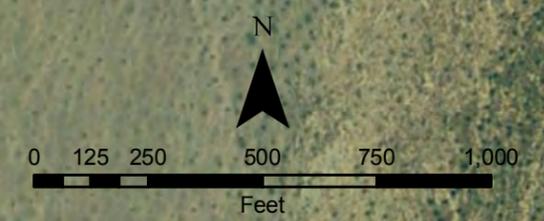
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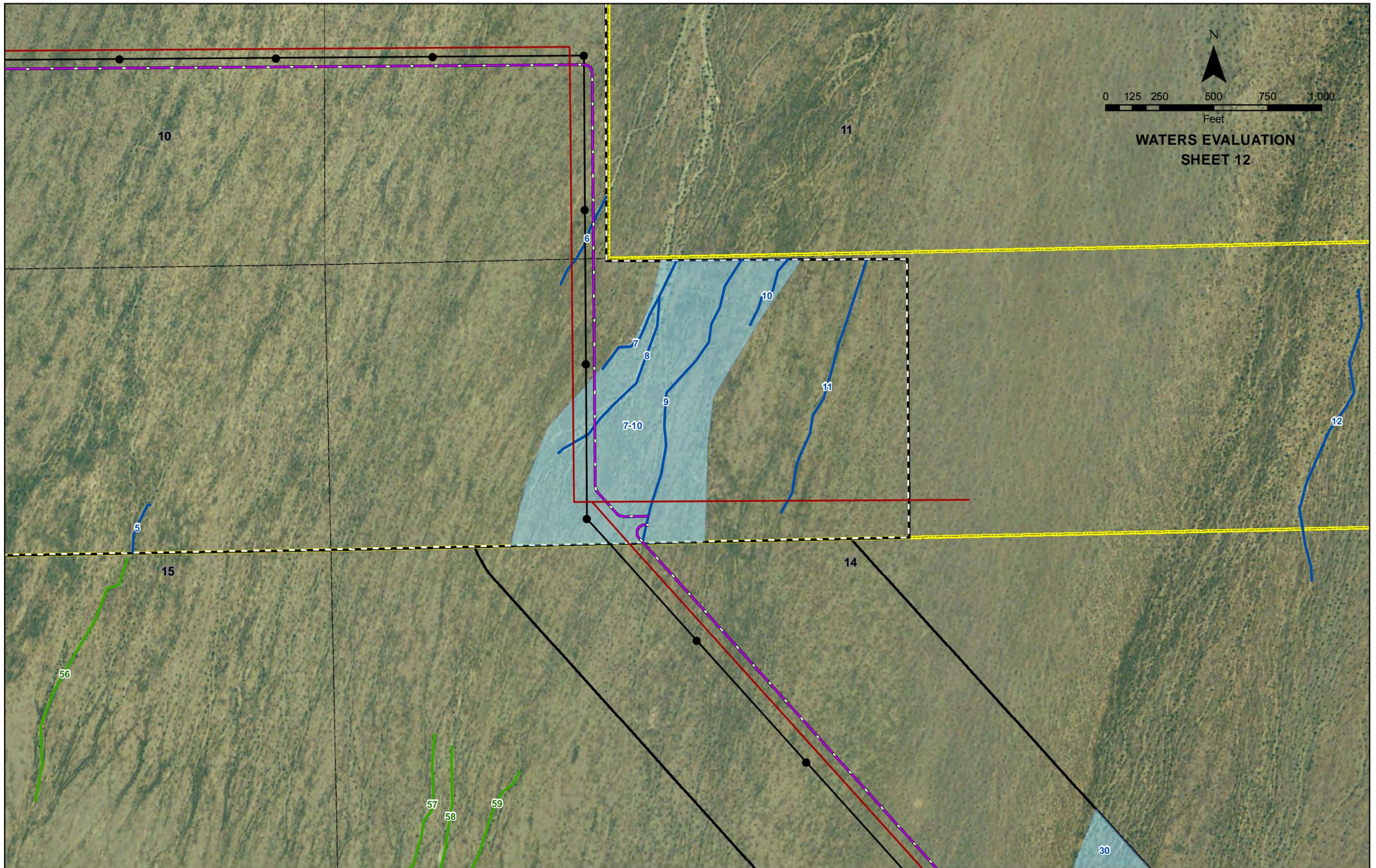
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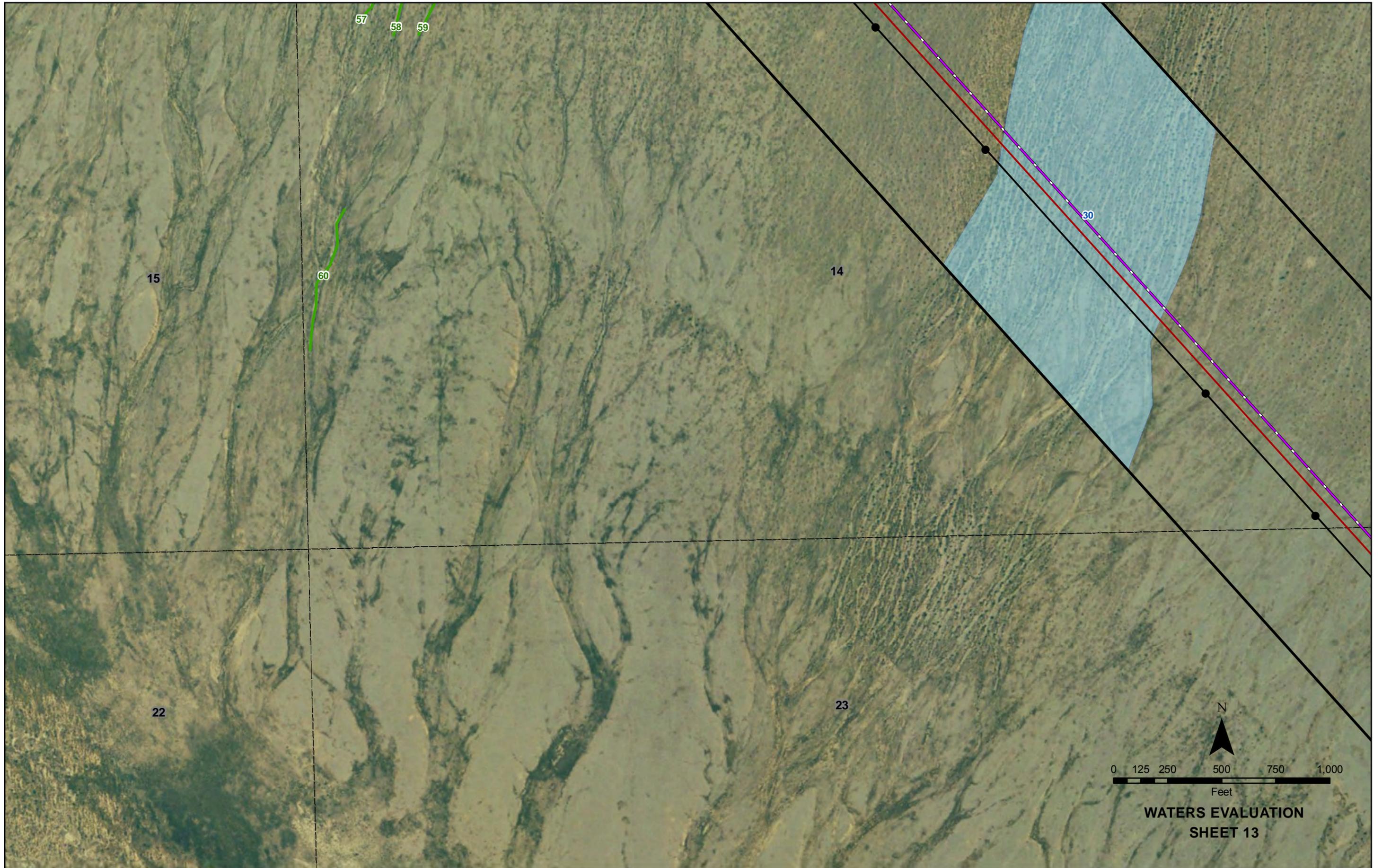
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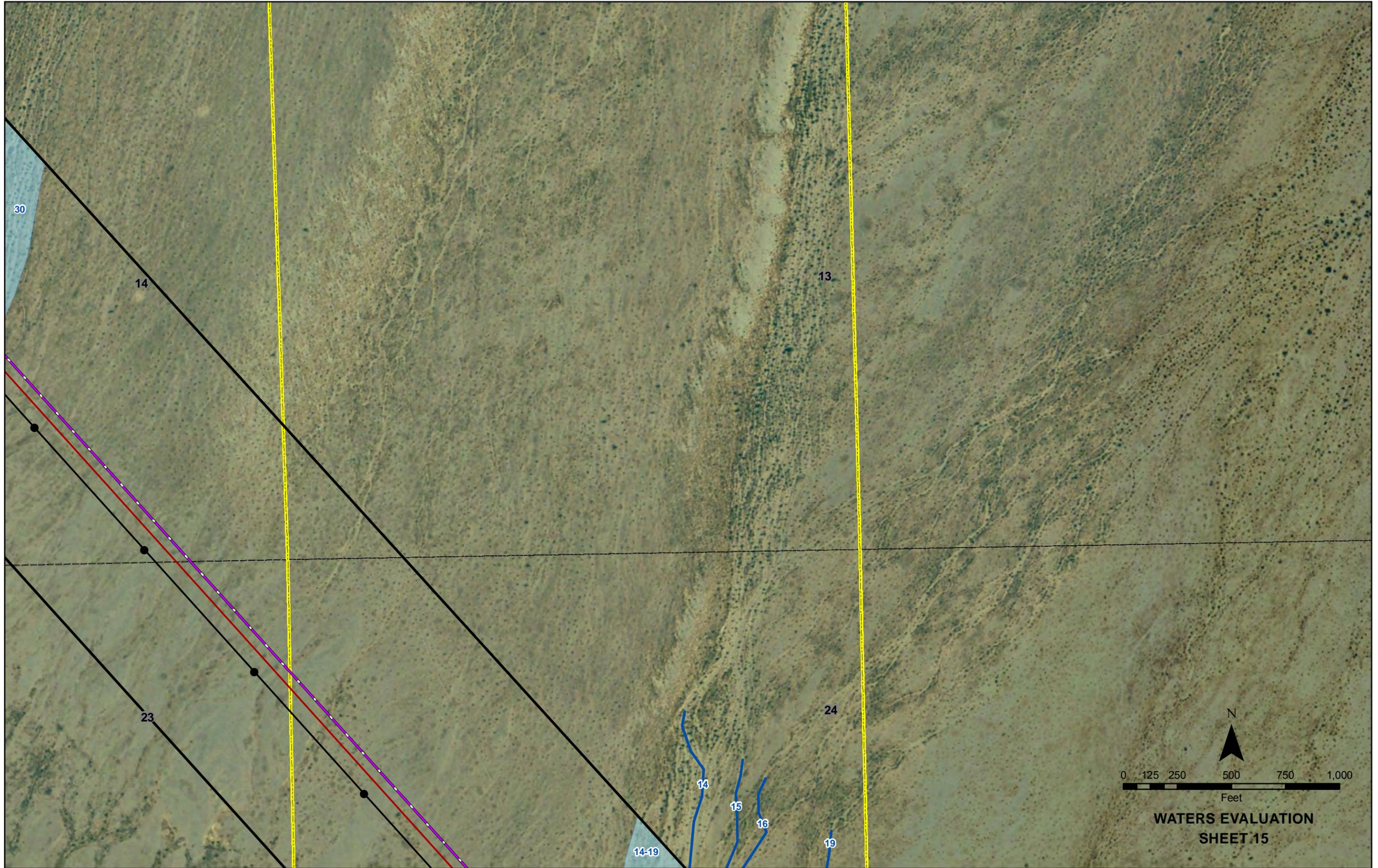


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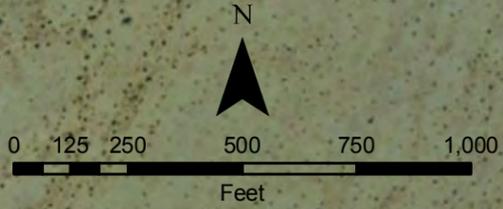
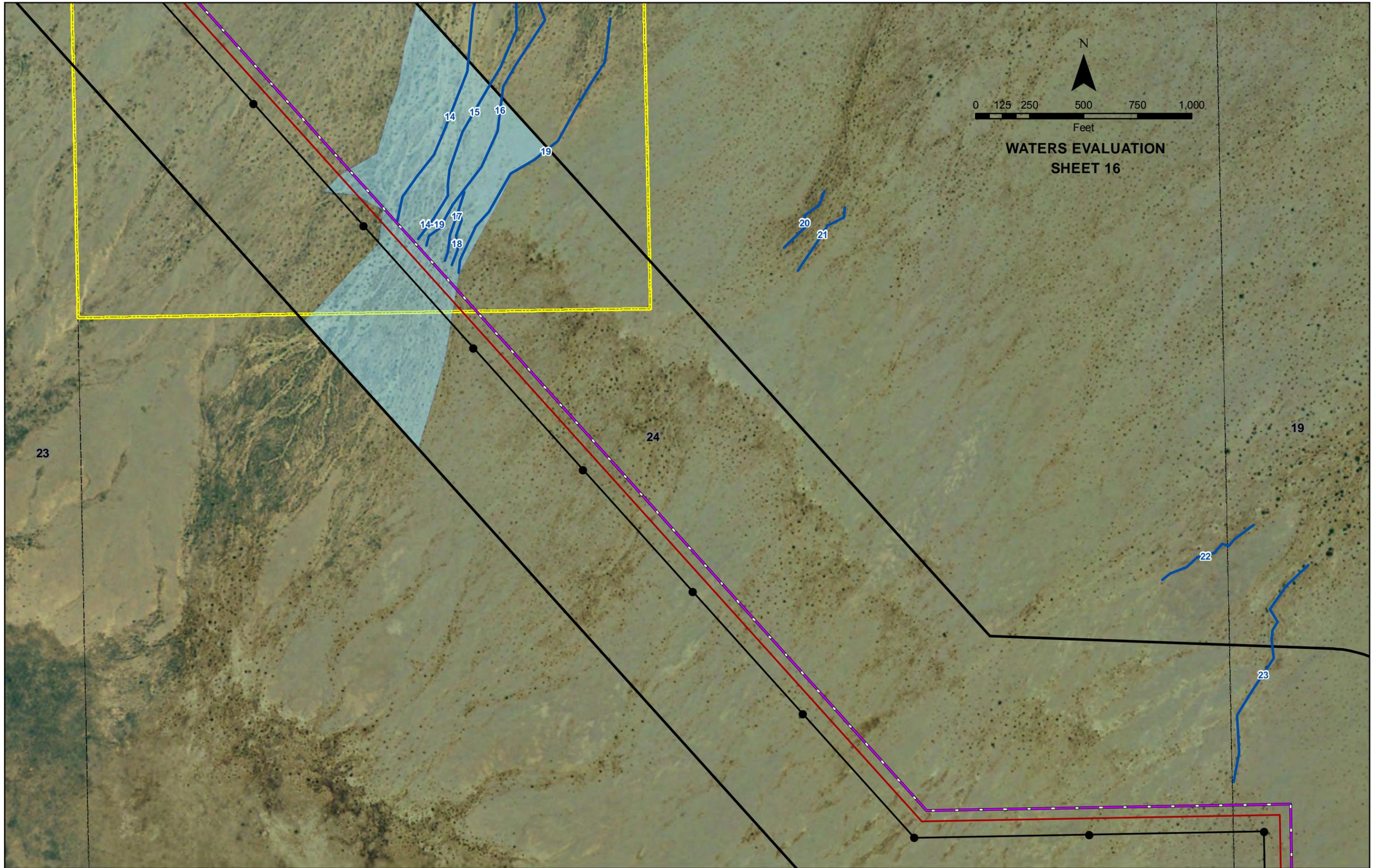




N
0 125 250 500 750 1,000
Feet
**WATERS EVALUATION
SHEET 13**



**WATERS EVALUATION
SHEET 15**



**WATERS EVALUATION
SHEET 16**

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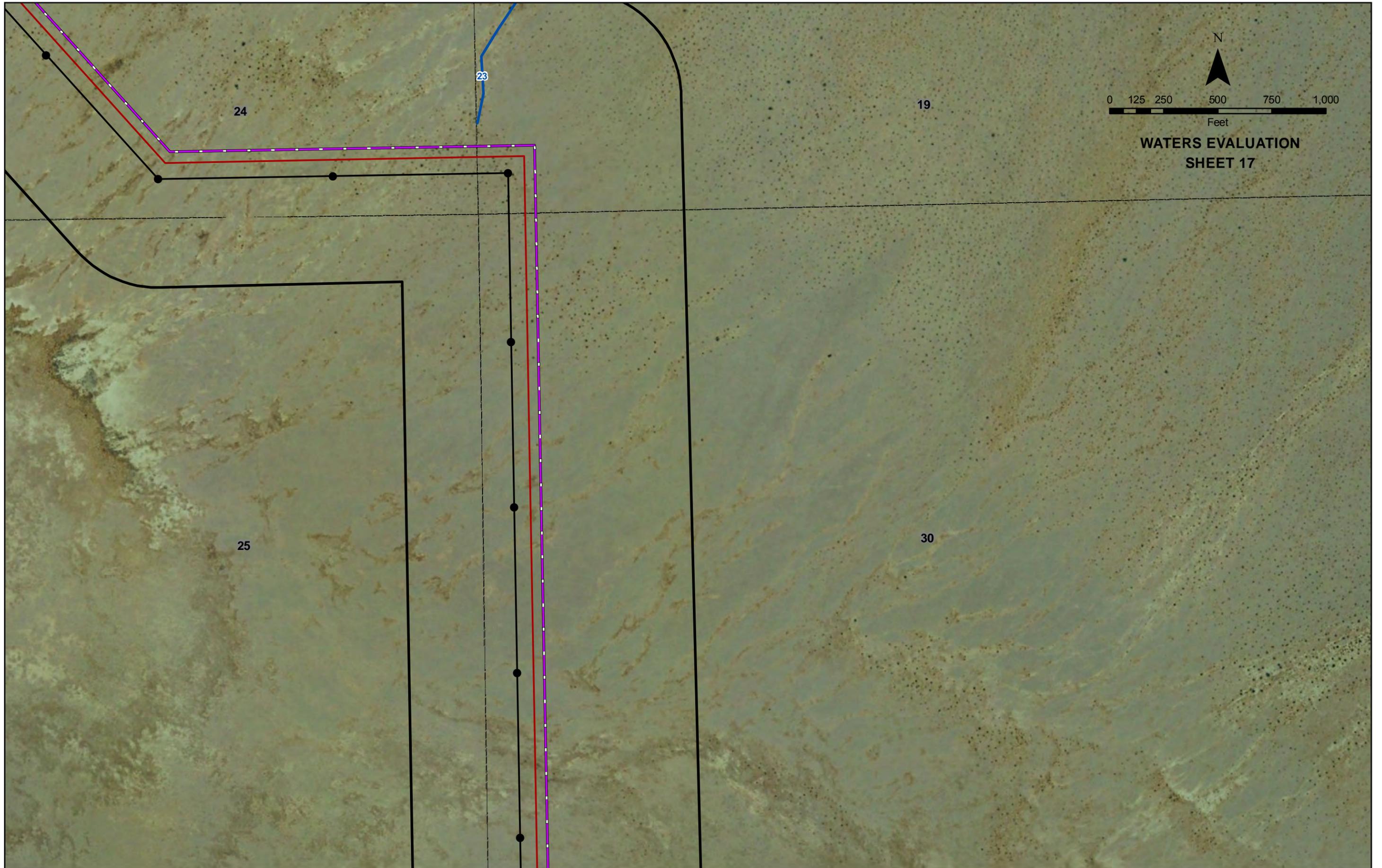
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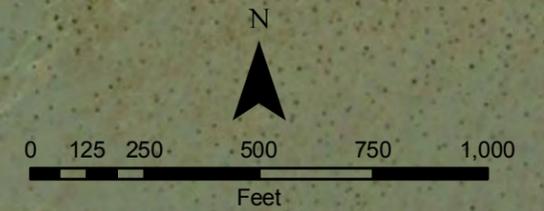
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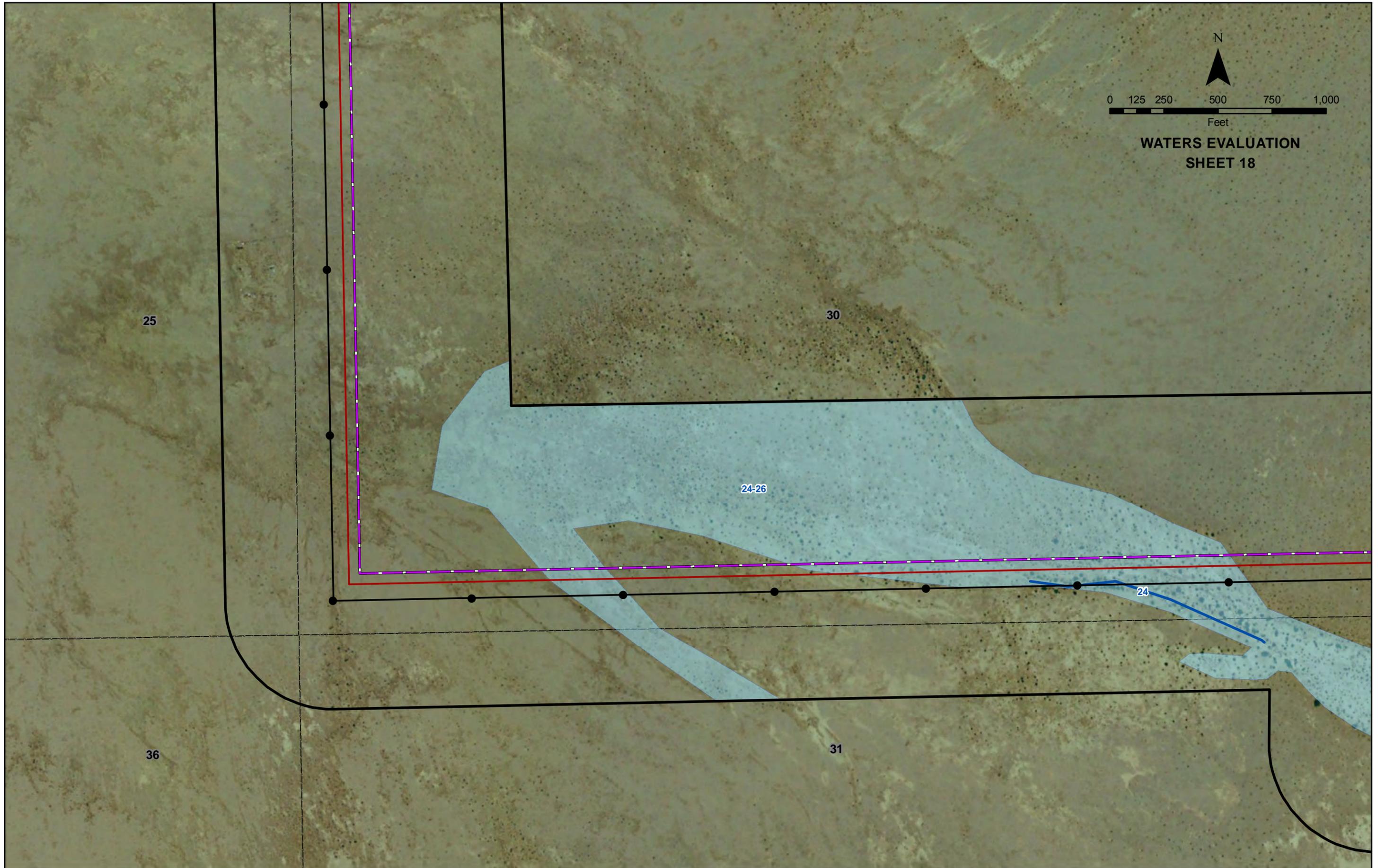
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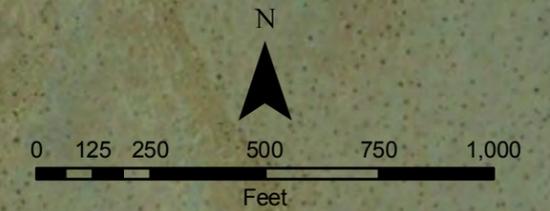
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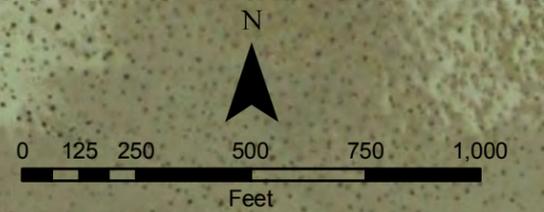
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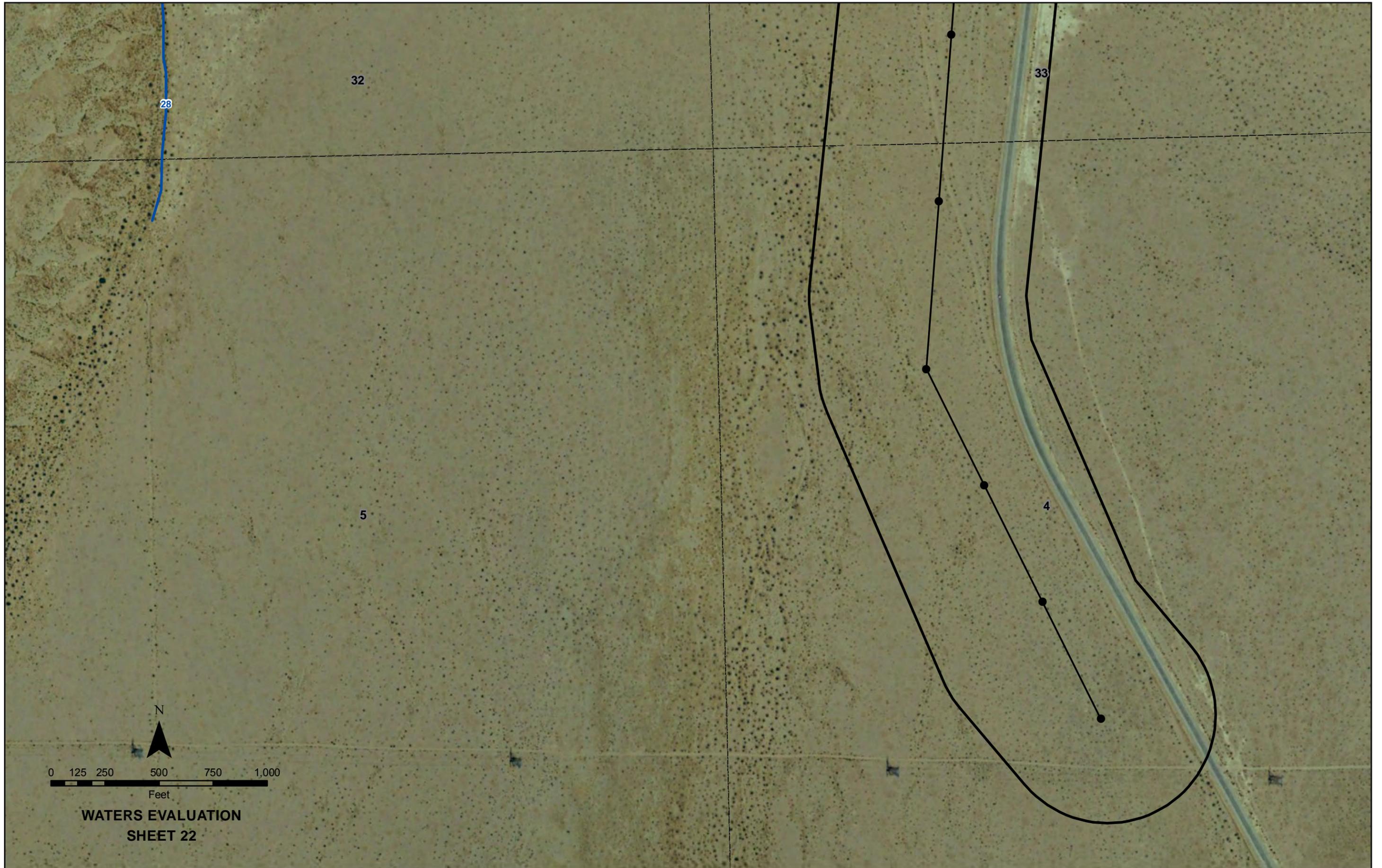


**WATERS EVALUATION
SHEET 19**





**WATERS EVALUATION
SHEET 21**



**WATERS EVALUATION
SHEET 22**

APPENDIX C
FIELD SURVEY DATA

Washes and Microphyllous Vegetation Directly Impacted by Project Facilities

Map ID	Location*	Average Bed Width (ft)	Average Bank Height (in.)	Delineated Length (ft)	Temporary Impact (acres)	Permanent Impact (acres)	Impact Area (acres)**	No. of Trees > 4" in Diameter Associated with Wash(es)	No. of Directly Impacted Trees	Directly Impacted Microphyll Vegetation Areas (acres)	Notes
1	Plant Site	10	6	909	n/a	0.21	0.21	IW (2)	IW (2)	0.07	Verified by field survey; Acreages of microphyll vegetation areas calculated using GIS
2	Plant Site	5	6	3,886	n/a	0.45	0.45	0	0	0.00	Verified by field survey
3	Plant Site	3	6	2,879	n/a	0.20	0.20	0	0	0.00	Verified by field survey
4	Plant Site	18	6	5,388	n/a	2.23	2.23	0	0	0.00	Verified by field survey; Old road
5	Plant Site	7	6	214	n/a	0.03	0.03	0	0	0.00	Verified by field survey
6	Plant Site	8	6	451	n/a	0.08	0.08	0	0	0.00	Verified by field survey
7-10	Plant Site	8.5 (average for washes 7-10)	6	1,400	n/a	20.91	20.91	IW(1), PV (1)	IW(1), PV (1)	0.04	Based on aerial; Acreages calculated using GIS; Contains field verified washes 7-10
11	Plant Site	3	6	1,238	n/a	0.09	0.09	0	0	0.00	Verified by field survey
12	No Longer in Project Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No Longer in Project Area; Verified by field survey
13	No Longer in Project Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No Longer in Project Area; Verified by field survey
14-19	T-line	7 (average for washes 14-19)	11	1474	0.00	0.00	0.00	IW (1)	0	0.00	Based on aerial; Acreages calculated using GIS; Contains field verified washes 14-19
	Gas Line				0.42	0.00	0.42		0	0.00	
	Access Road				1.48	0.44	1.92		0	0.00	
20	No Longer in Project Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No Longer in Project Area; Verified by field survey
21	No Longer in Project Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No Longer in Project Area; Verified by field survey
22	No Longer in Project Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No Longer in Project Area; Verified by field survey
23	No Longer in Project Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No Longer in Project Area; Verified by field survey
24-26	T-line	52 (average for washes 24-26)	13	12,971	0.47	0.00	0.47	PV (832)	22	0.47	Based on aerial; Acreages calculated using GIS; Contains field verified washes 24-26; Tree count based on aerial
	Gas Line				1.64	0.00	1.64		67	1.64	
	Access Road				10.10	3.05	13.16		181	13.16	
27	No Longer in Project Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No Longer in Project Area; Verified by field survey
28	No Longer in Project Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No Longer in Project Area; Verified by field survey
29	No Longer in Project Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No Longer in Project Area; Verified by field survey

Washes and Microphyllous Vegetation Directly Impacted by Project Facilities

Map ID	Location*	Average Bed Width (ft)	Average Bank Height (in.)	Delineated Length (ft)	Temporary Impact (acres)	Permanent Impact (acres)	Impact Area (acres)**	No. of Trees > 4" in Diameter Associated with Wash(es)	No. of Directly Impacted Trees	Directly Impacted Microphyll Vegetation Areas (acres)	Notes
30	T-line	5 (average of several washes)	--	1,507	0.06	36.26	36.32	0	0	0.00	Based on aerial, no field verification; Acreages calculated using GIS; Man-made borrow pit
	Gas Line				0.64	0.00	0.64		0	0.00	
	Access Road				2.52	0.77	3.29		0	0.00	
31	Transmission Line	297	--	862	0.06	0.00	0.06	HM (50)	5	0.06	Based on aerial, no field verification; Acreages calculated using GIS; tree count based on aerial - species determination based on data from biological resource survey data
	Access Road				0.47	0.13	0.59		17	0.59	
	Gas Line				0.00	0.00	0.00		0	0.00	
Total					17.86	64.84	82.69	894	296	16.03	

* Includes washes within 500 ft. survey buffer area

** Transmission line impact calculations include stub roads

IW - Ironwood

PV - Palo Verde

HM - Honey Mesquite

APPENDIX D
DOWNSTREAM WASH DATA

Washes and Microphyllous Vegetation Downstream of the Plant Site

Map ID	Location	Average Bed Width (ft)	Average Bank Height (in.)*	Delineated Length (ft)	Approximate Delineated Acreage**	No. of Trees > 4" in Diameter Associated with Wash(es)	Microphyll Vegetation Areas (acres)	Notes
32	Downstream of Plant Site	6	--	1973	3.68	0.00	0.00	Based on aerial, no field verification
33	Downstream of Plant Site	10	--	633	0.60	0.00	0.00	Based on aerial, no field verification
34	Downstream of Plant Site	5	--	1098	0.13	0.00	0.00	Based on aerial, no field verification
35	Downstream of Plant Site	10	--	619	0.14	0.00	0.00	Based on aerial, no field verification
36	Downstream of Plant Site	4	--	589	0.05	0.00	0.00	Based on aerial, no field verification
37	Downstream of Plant Site	10	--	2105	3.74	0.00	0.00	Based on aerial, no field verification
38	Downstream of Plant Site	3	--	1586	0.11	0.00	0.00	Based on aerial, no field verification
39	Downstream of Plant Site	5	--	538	0.06	0.00	0.00	Based on aerial, no field verification
40	Downstream of Plant Site	3	--	654	0.05	0.00	0.00	Based on aerial, no field verification
41	Downstream of Plant Site	5	--	515	0.06	0.00	0.00	Based on aerial, no field verification
42	Downstream of Plant Site	4	--	686	0.06	0.00	0.00	Based on aerial, no field verification
43	Downstream of Plant Site	4	--	1405	0.13	0.00	0.00	Based on aerial, no field verification
44	Downstream of Plant Site	8	--	2247	3.68	0.00	0.00	Based on aerial, no field verification
45	Downstream of Plant Site	3	--	516	0.04	0.00	0.00	Based on aerial, no field verification
46	Downstream of Plant Site	3	--	518	0.04	0.00	0.00	Based on aerial, no field verification
47	Downstream of Plant Site	3	--	1672	0.12	0.00	0.00	Based on aerial, no field verification
48	Downstream of Plant Site	3	--	1898	0.13	0.00	0.00	Based on aerial, no field verification
49	Downstream of Plant Site	3	--	1068	0.07	0.00	0.00	Based on aerial, no field verification
50	Downstream of Plant Site	3	--	634	0.04	0.00	0.00	Based on aerial, no field verification
51	Downstream of Plant Site	4	--	508	0.05	0.00	0.00	Based on aerial, no field verification
52	Downstream of Plant Site	20	--	3610	7.35	0.00	0.00	Based on aerial, no field verification
53	Downstream of Plant Site	3	--	739	0.05	0.00	0.00	Based on aerial, no field verification
54	Downstream of Plant Site	3	--	550	0.04	0.00	0.00	Based on aerial, no field verification
55	Downstream of Plant Site	3	--	373	0.03	0.00	0.00	Based on aerial, no field verification
56	Downstream of Plant Site	7	--	1242	0.20	0.00	0.00	Based on aerial, no field verification
57	Downstream of Plant Site	5	--	717	0.08	0.00	0.00	Based on aerial, no field verification
58	Downstream of Plant Site	5	--	685	0.08	0.00	0.00	Based on aerial, no field verification
59	Downstream of Plant Site	4	--	632	0.06	0.00	0.00	Based on aerial, no field verification
60	Downstream of Plant Site	4	--	688	0.06	0.00	0.00	Based on aerial, no field verification
				Total Acres	20.92	0.00	0.00	

* Bank height cannot be determined by aerial photography

** Acreage calculated using GIS mapping software

IW - Ironwood

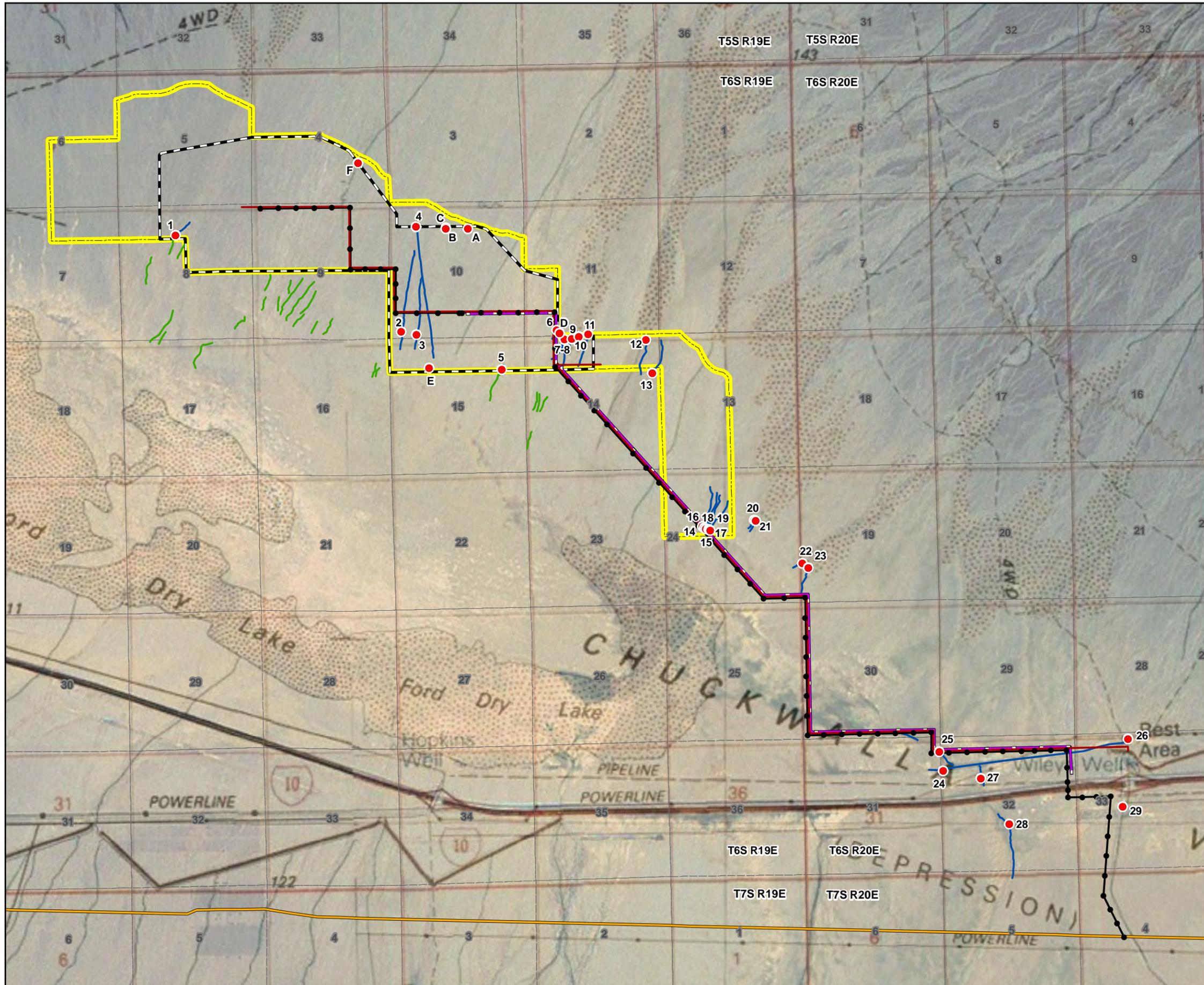
PV - Palo Verde

HM - Honey Mesquite



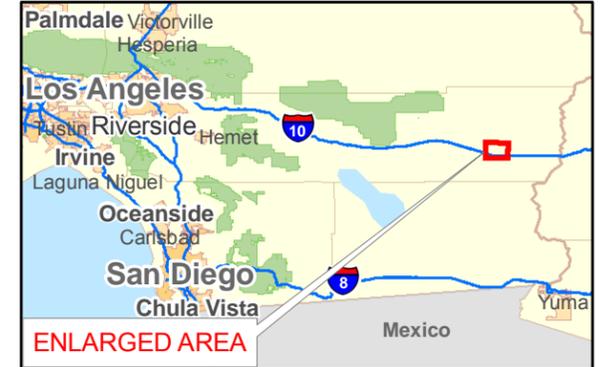
APPENDIX E
PHOTOGRAPH LOG

Genesis Waters Survey
Photo Log with GPS Data
(UTM NAD 83 Zone 11N)



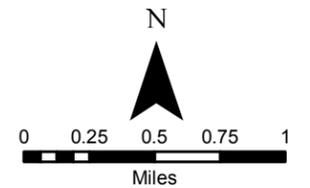
GENESIS SOLAR, LLC

GENESIS SOLAR ENERGY PROJECT RIVERSIDE COUNTY, CALIFORNIA



Legend

- Waters Survey Photo Location
- Transmission Interconnect Structure
- Access Road
- Gas Line
- Transmission Interconnect
- Blythe Transmission Line
- ▭ BLM Requested ROW
- ▭ Facility Footprint
- ▭ Section Line
- June 2009 Field Verified Jurisdictional Waters of the State
- Jurisdictional Waters of the State (Potential)



Notes:
 (a) UTM Zone 11, NAD 1983 Projection.
 (b) Source data: ESRI, BLM, eGIS, TTEC

WATERS EVALUATION PHOTO KEY MAP





Wash 1 (683384E, 3727120N)



Wash 2 (686066E, 3725974N)



Wash 3 (686251E, 3725938N)



Wash 4 (Old Road) (686244E, 3727218N)



Wash 5 (687267E, 3725524N)



Wash 6 (387923E, 3725989N)



Wash 7 (688013E, 3725877N)



Wash 8 (688011E, 3725877N)



Wash 9 (688100E, 3725886N)



Wash 10 (688183E, 3725916N)



Wash 11 (688297E, 3725945N)



Wash 12 (688985E, 3725871N)



Wash 13 (689060E, 3725484N)



Wash 14 (38/9654E, 3723661N)



Wash 15 (689678E, 3723640N)



Wash 16 (689694E, 3723632N)



Wash 17 (689729E, 3723625N)



Wash 18 (689738E, 3723621N)



Wash 19 (689748E, 3723615N)



Wash 20 (690277E, 3723735N)



Wash 21 (690295E, 3723722N)



Wash 22 (690850E, 3723224N)



Wash 23 (690915E, 3723171N)



Wash 24 (692524E, 3720755N)



Wash 25 (692476E, 3720985N)



Wash 26 (694727E, 3721136N)



Wash 27 (692975E, 3720670N)



Wash 28 (693311E, 3720125N)



Wash 29 (694665E, 3720328N)



Photo A - No Data Collected (686862E, 3727191N)



Photo B - No Data Collected (686602E, 3727208N)



Photo C - No Data Collected (686602E, 3727191N)



Photo D - No Data Collected (687958E, 3725955N)



Photo E - No Data Collected (686399E, 3725542N)



Photo F - No Data Collected (685555E, 3727975N)



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

**APPLICATION FOR CERTIFICATION FOR THE
GENESIS SOLAR ENERGY PROJECT**

Docket No. 09-AFC-8

PROOF OF SERVICE
(Revised 1/04/10)

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DECLARATION OF SERVICE

I, Tricia Bernhardt, declare that on January 13, 2010, I served and filed copies of the **attached Notification of Lake or Streambed Alteration Form and Attachment 2, Survey for Jurisdictional Waters and Wetlands at the Genesis Solar Energy Project, Revision 2**, dated January, 2010. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [http://ww.energy.ca.gov/sitingcases/genesis_solar].

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

FOR SERVICE TO ALL OTHER PARTIES:

sent electronically to all email addresses on the Proof of Service list;

by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (**preferred method**);

OR

depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 09-AFC-8
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

Original Signed By:



Tricia Bernhardt