TC Assignment 8/19/2026

Tortoise Fencing on City Open Space

Background:

Divario is currently in the process of completing a fence agreement with the HCP for its boundary with the Red Cliffs Desert Reserve in Zone 6. As a part of this process, we are working with St. George City for open space areas that have been deeded to them, or will be in the near future. The City is willing to place tortoise fence on their open space property, which would expand the amount of habitat available to tortoises in or near the Reserve. Tortoises occurring in these open space lands would also not need to be removed for the upcoming tortoise clearance planned in Divario. The City is only willing to place fence in their open space with the understanding that it would be valuable to the tortoise if the City needs future mitigation (ie for projects like a road near the substation or a future trailhead).

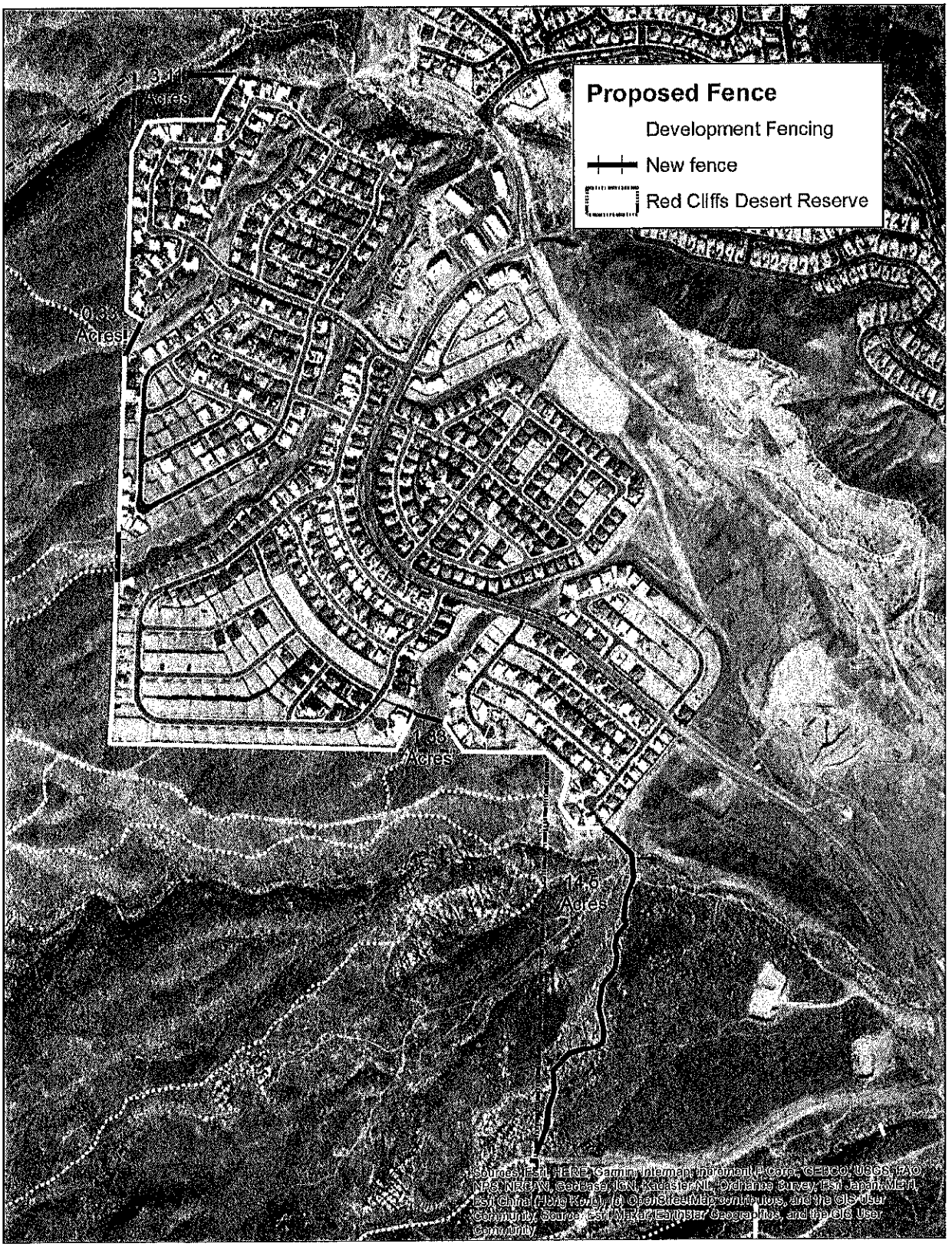
The areas north and south of Divario were previously analyzed and considered as possible mitigation sources for these projects (See TC assignment 9/12/2023 and associated survey report). However, they are also proposing two minor additions of 0.33 and 1.33 acres (Figure 1), now totaling 19.3 acres. These smaller additions were surveyed on 8/18/26 in preparation for this TC assignment.

This TC evaluation is to consider the current value of these 19.3 acres as possible mitigation for future City projects. It is not to be considered a final evaluation, as it is possible that fire or other significant changes to its habitat condition could change its respective score at the time it is re-evaluated as mitigation for a more specific project proposal.

TC Assignment:

Please complete the USFWS evaluation form to assess the current mitigation value of these lands in City open space.

Figure 1. Potential mitigation parcels on St. George City Open Space property near Divario.



Tortoise Survey Report – 8/18/2026

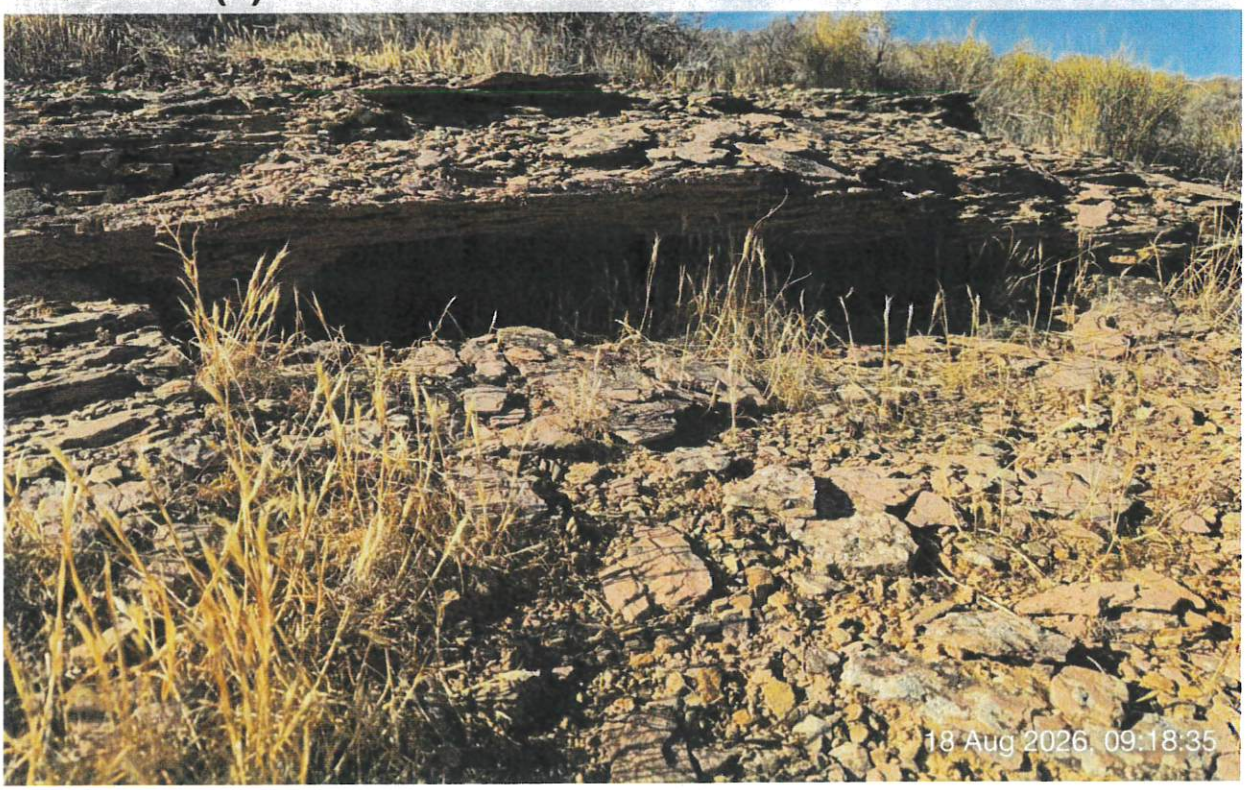
Below are photos from the tortoise survey on 8/18/26. The two smaller parcels were surveyed at 100%, the larger parcels were just surveyed with two transects each since they were fully surveyed in 2023.

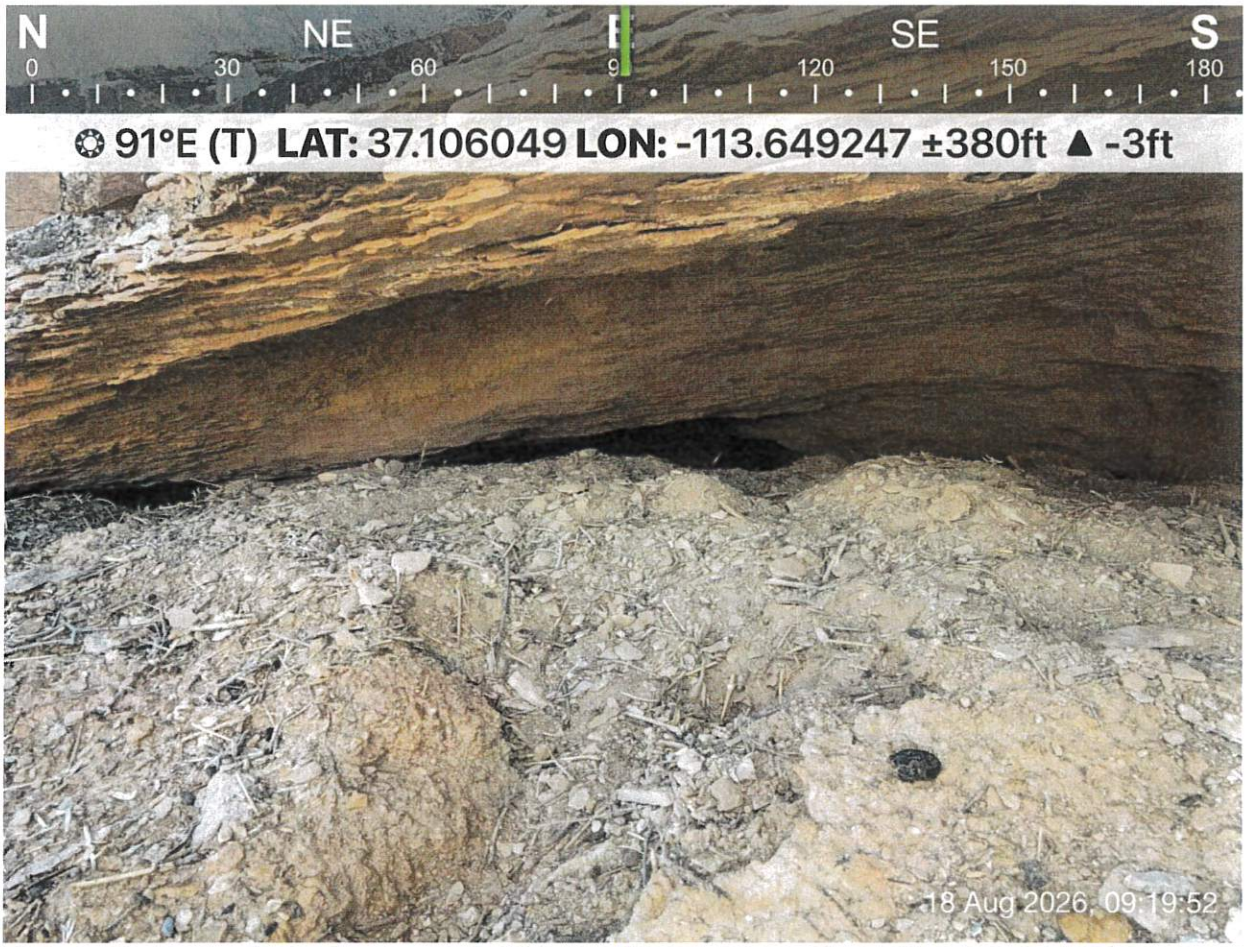
All tortoise sign was seen on the 3.11 and 14.5 acre parcels. Sign included burrows of all class sizes, scat from adults and juveniles, including very recent scat since the last rain storm. Tracks in burrows and the wash were also seen. One nest was observed with egg shell remains that looked to have recently hatched. While the smaller parcels did not have tortoise sign, they are of similar habitat quality to the adjacent reserve habitat and both include a small wash that runs down the middle of them. The larger 14.5-acre parcel held standing water from last week's storm and tadpoles were thriving in one them.

Box Canyon – 3.11 Acres

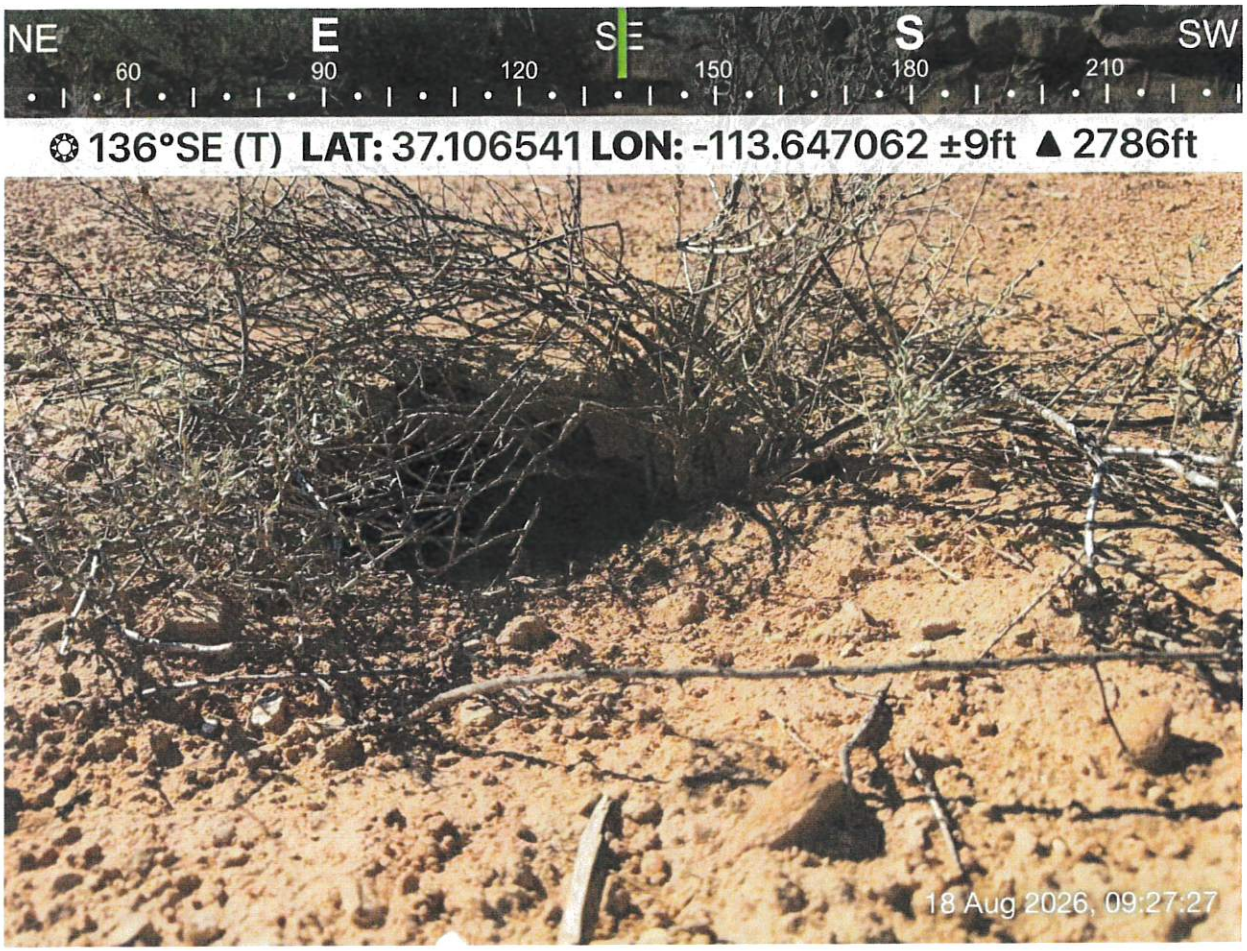
⌾ 280°W (T) **LAT:** 37.106152 **LON:** -113.647886 ±22ft ▲ 2791ft

⌾ 202°S (T) **LAT:** 37.106115 **LON:** -113.649066 ±19ft ▲ 2805ft

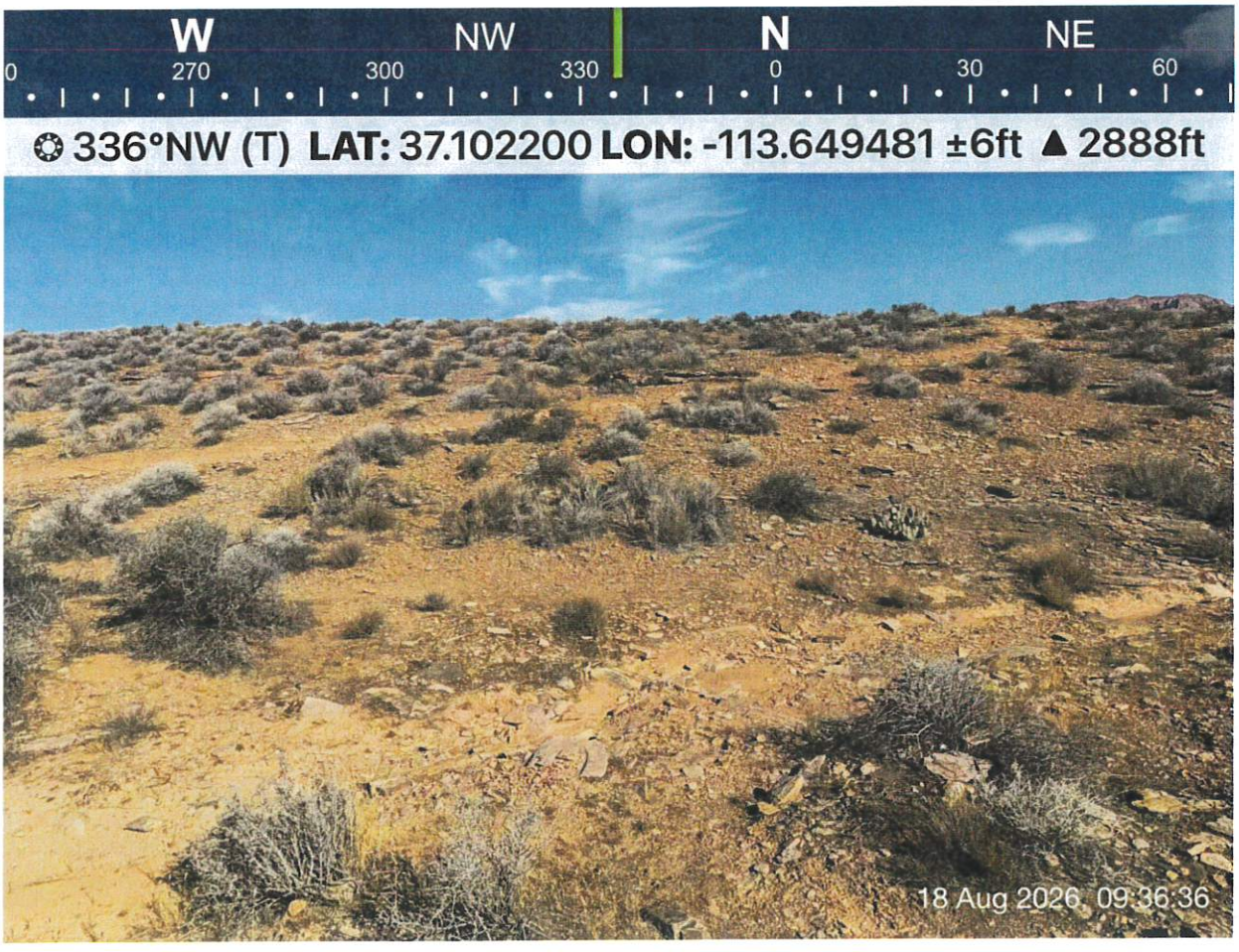



N NE E SE S
0 30 60 90 120 150 180
91°E (T) LAT: 37.106049 LON: -113.649247 ±380ft ▲ -3ft
18 Aug 2026, 09:19:52

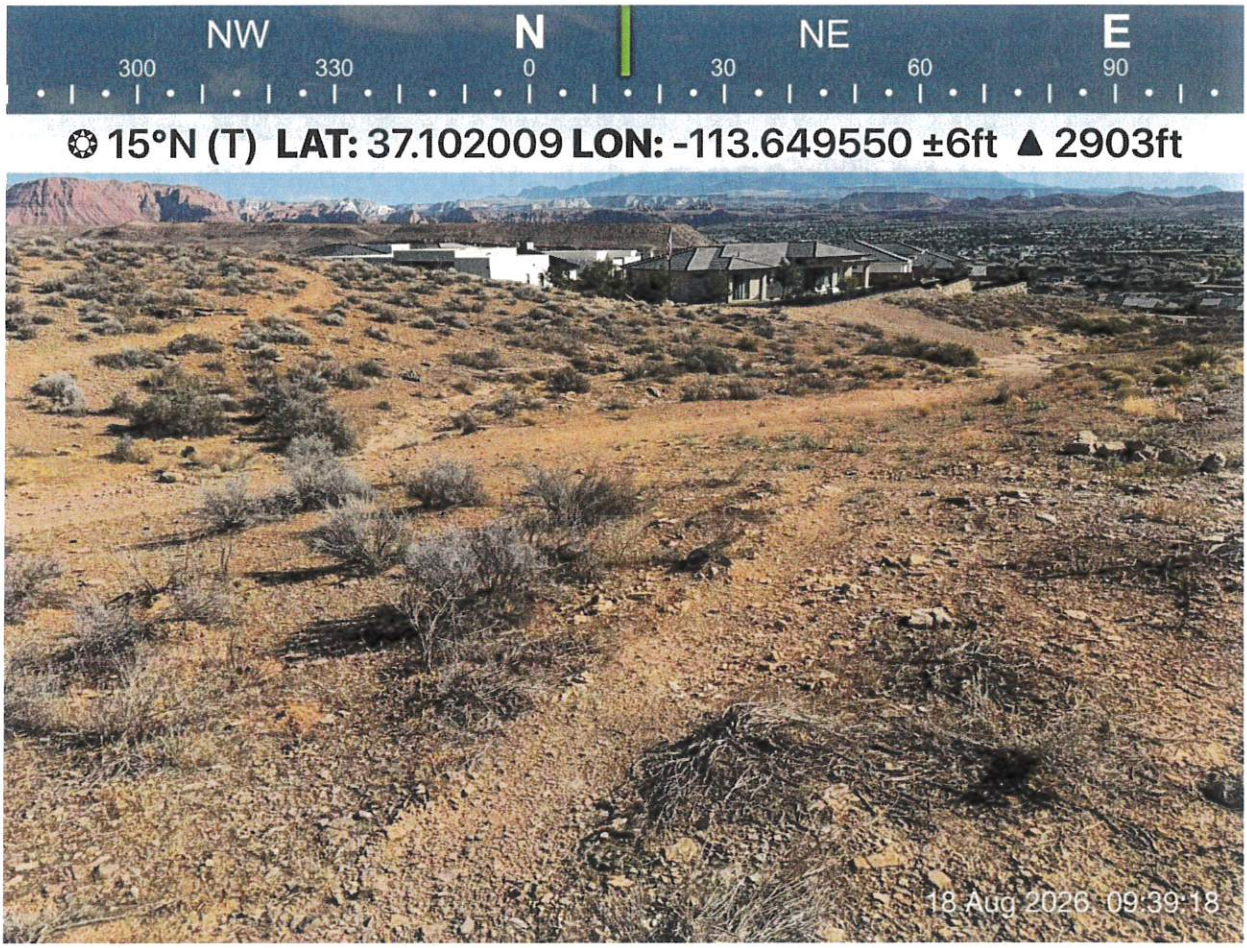

S SW W NW
180 210 240 270 300 330
259°W (T) LAT: 37.106061 LON: -113.647856 ±52ft ▲ 2811ft
18 Aug 2026, 09:24:09



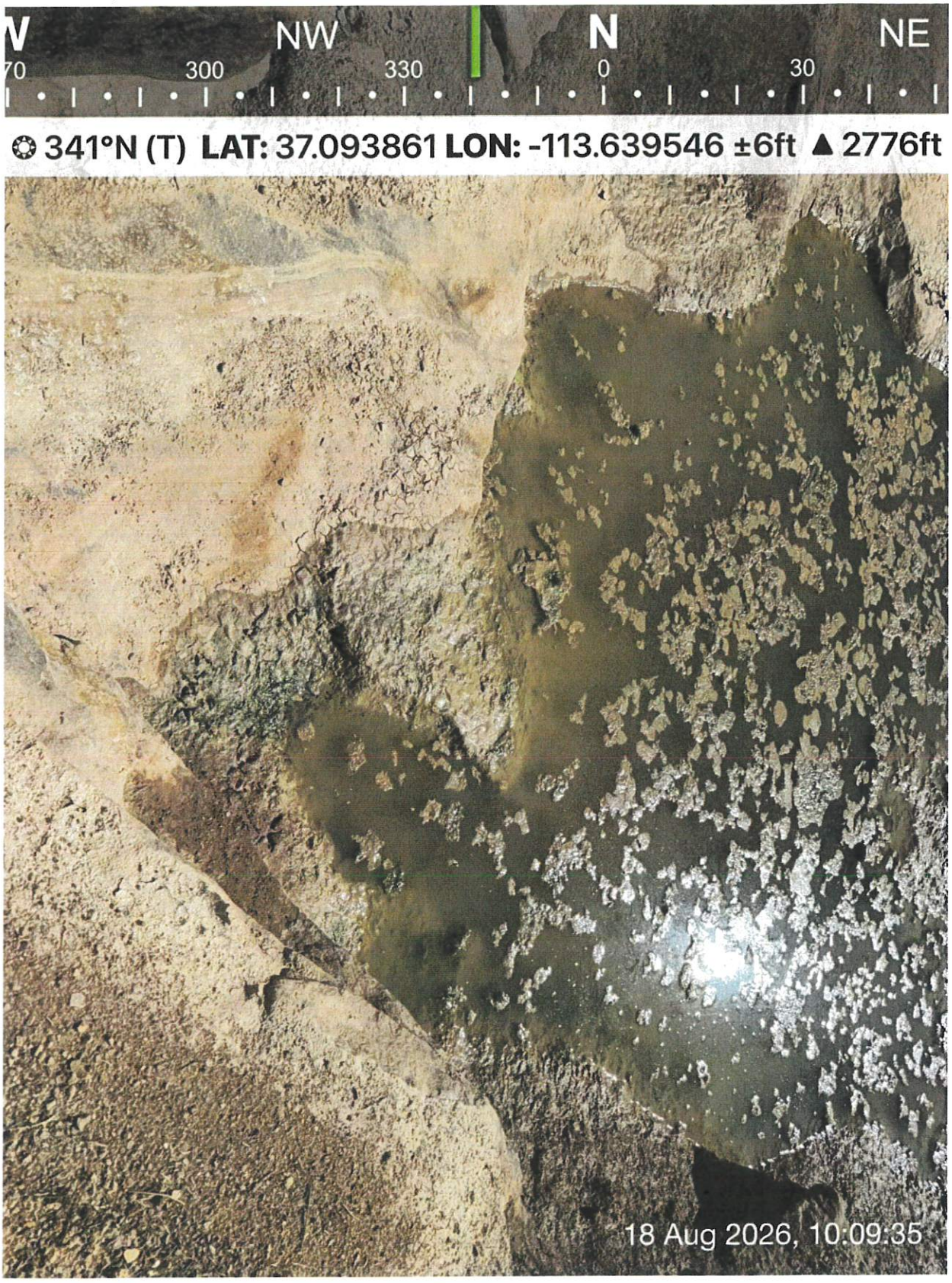
0.33– Acre Parcel

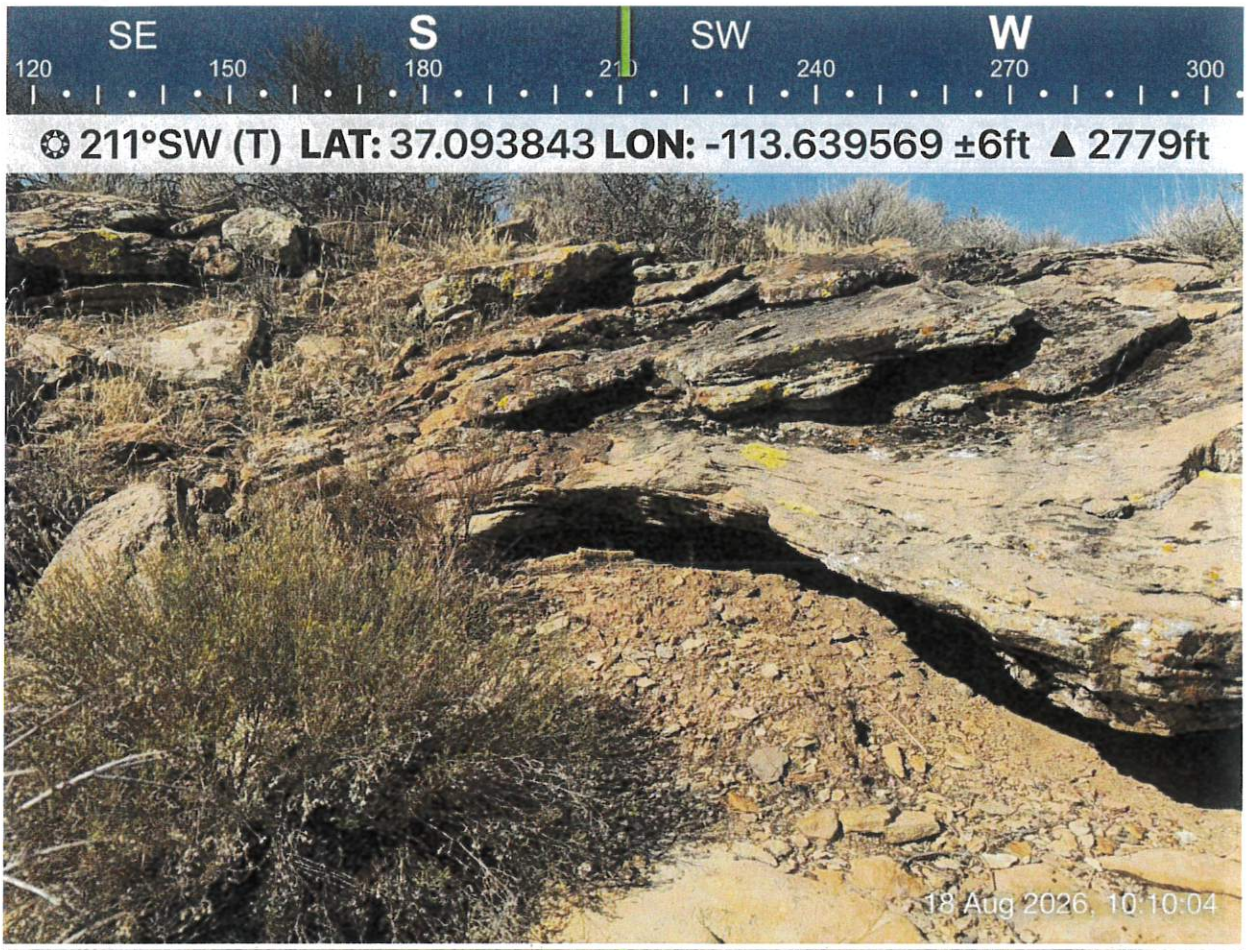


1.33– Acre Parcel



14.5-acre parcel

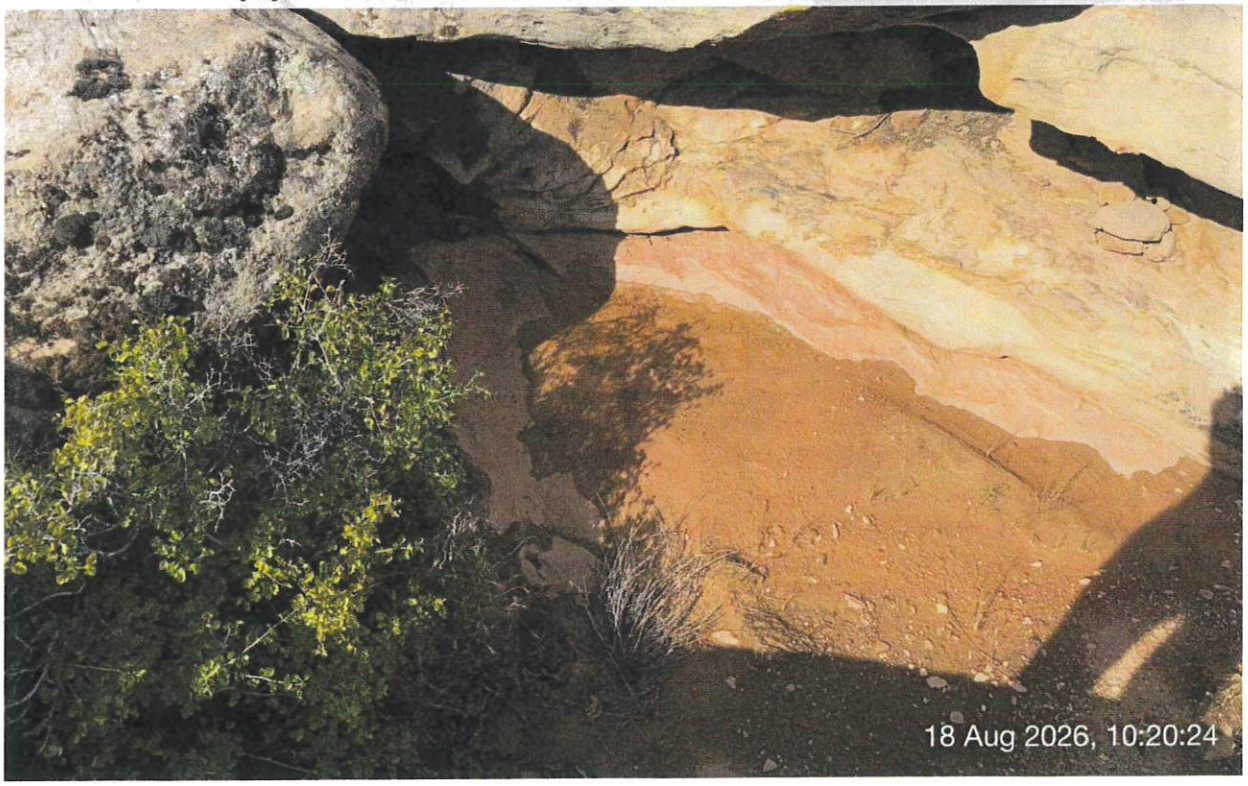



SE
S
SW
W
120
150
180
210
240
270
300
211°SW (T) LAT: 37.093843 LON: -113.639569 ±6ft ▲ 2779ft
18 Aug 2026, 10:10:04


NE
E
SE
S
30
60
90
120
150
180
110°E (T) LAT: 37.093761 LON: -113.639492 ±9ft ▲ 2787ft
18 Aug 2026, 10:12:37

124°SE (T) **LAT:** 37.092707 **LON:** -113.639086 ±13ft ▲ 2796ft

245°SW (T) **LAT:** 37.092134 **LON:** -113.639253 ±13ft ▲ 2815ft

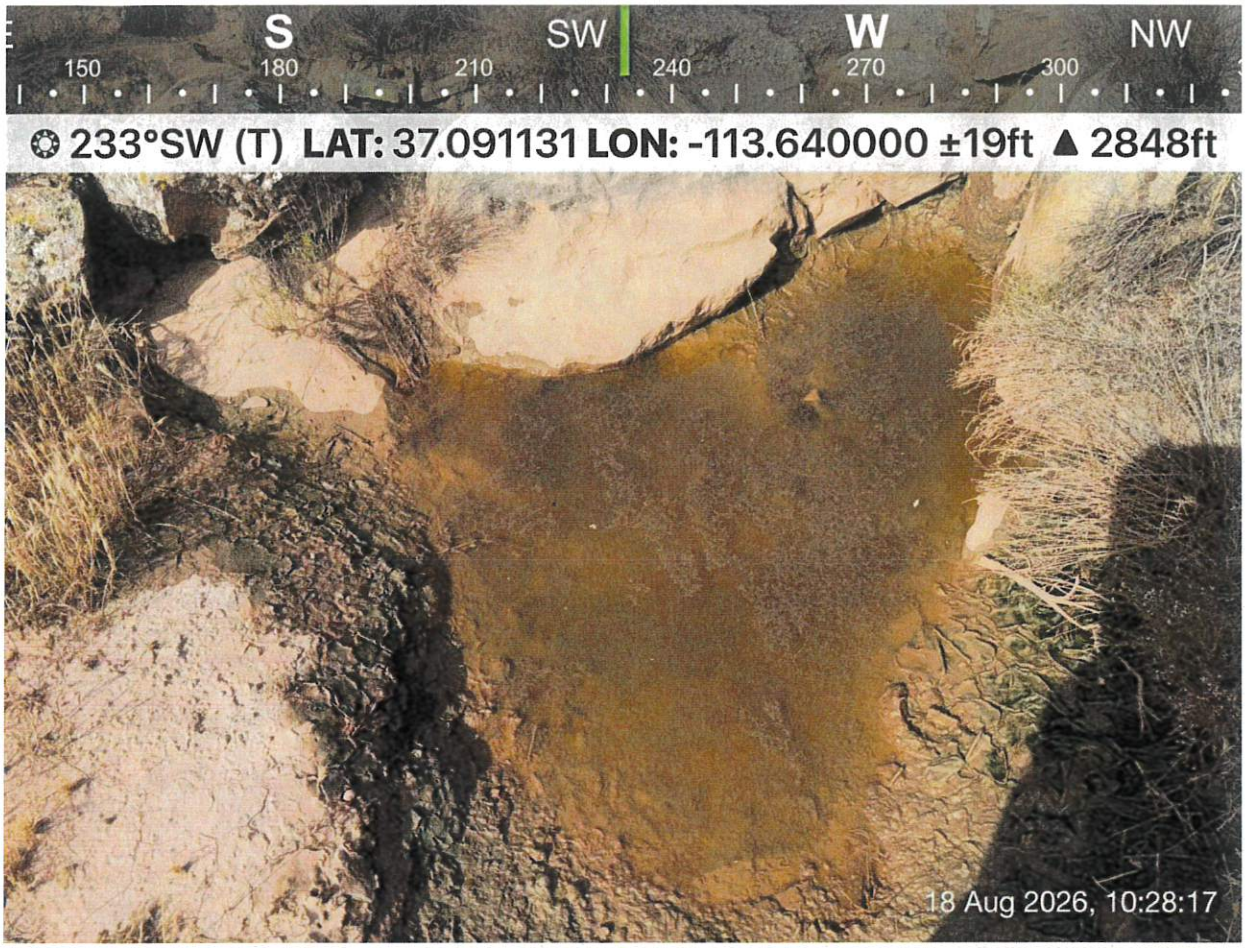



SE
S
SW
W
120
150
180
210
240
270
204°SW (T) LAT: 37.090949 LON: -113.639550 ±19ft ▲ 2842ft
18 Aug 2026, 10:25:07

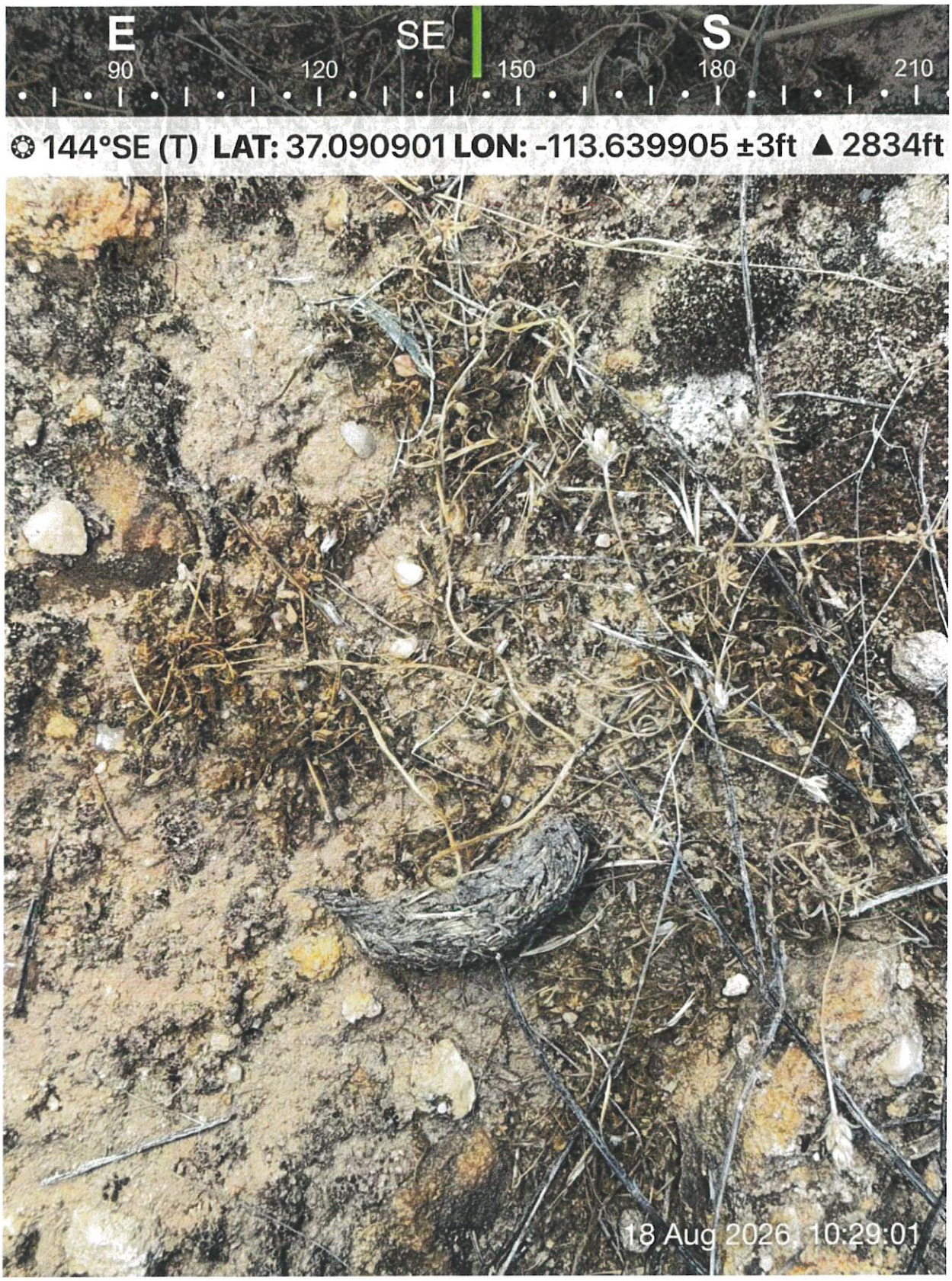

NW
N
NE
E
300
330
0
30
60
90
26°NE (T) LAT: 37.091122 LON: -113.639546 ±13ft ▲ 2833ft
18 Aug 2026, 10:26:12

233°SW (T) **LAT:** 37.091272 **LON:** -113.639723 ±6ft ▲ 2821ft

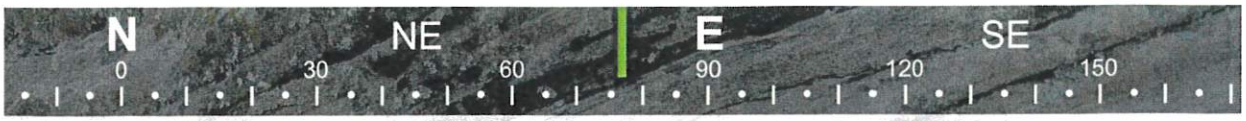
101°E (T) **LAT:** 37.091200 **LON:** -113.639857 ±6ft ▲ 2829ft


S
SW
W
NW
150
180
210
240
270
300
233°SW (T) LAT: 37.091131 LON: -113.640000 ±19ft ▲ 2848ft
18 Aug 2026, 10:28:17


SE
S
SW
W
120
150
180
210
240
270
201°S (T) LAT: 37.091065 LON: -113.639914 ±13ft ▲ 2832ft
18 Aug 2026, 10:28:35

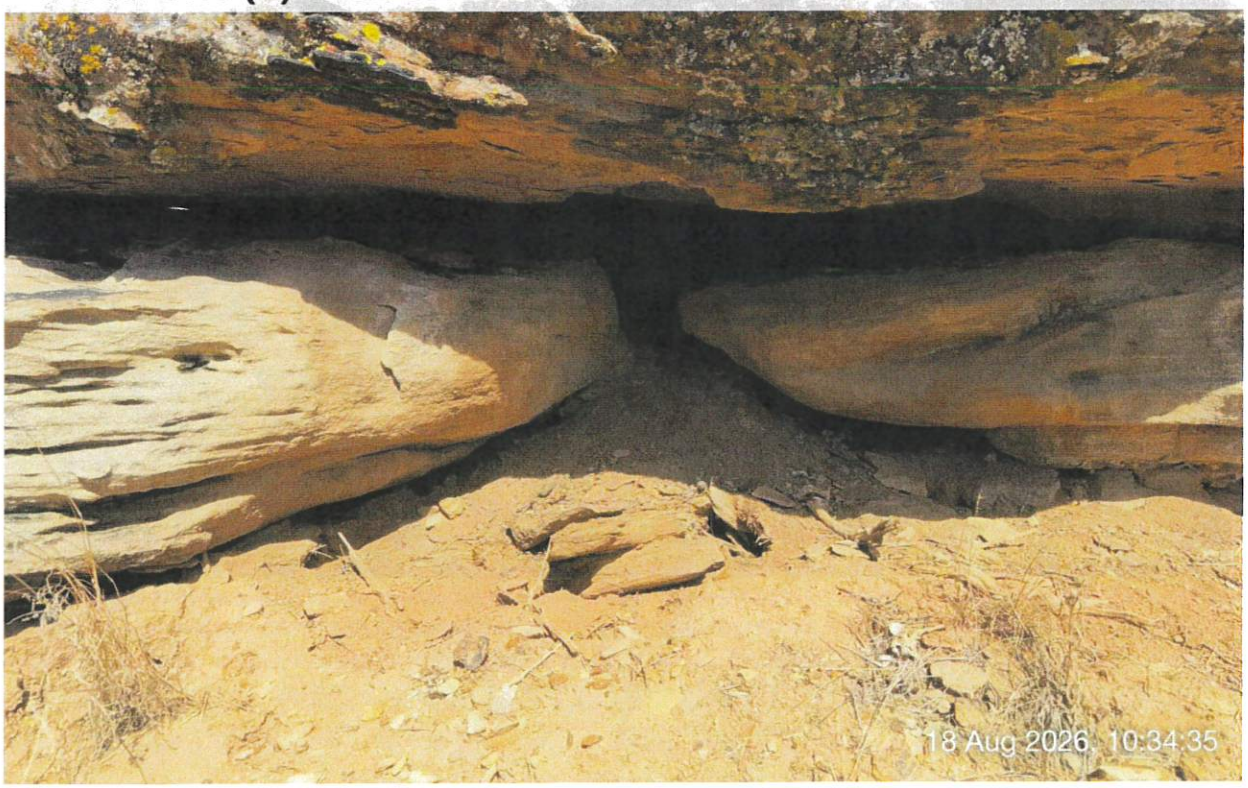

E
90
SE
120
150
S
180
210
144°SE (T) LAT: 37.090901 LON: -113.639905 ±3ft ▲ 2834ft
18 Aug 2026, 10:29:01


E
SE
S
60
90
120
150
180
121°SE (T) LAT: 37.090907 LON: -113.639900 ±6ft ▲ 2834ft
18 Aug 2026, 10:29:05



77°E (T) **LAT:** 37.090812 **LON:** -113.639816 ±6ft ▲ 2840ft

302°NW (T) **LAT:** 37.092077 **LON:** -113.640879 ±6ft ▲ 2827ft



SW 210 240 W 270 300 NW 330 N 0

284°W (T) **LAT:** 37.092083 **LON:** -113.640892 ±6ft ▲ 2826ft

W 330 N 0 NE 30 60 E 90 120 SE

49°NE (T) **LAT:** 37.092673 **LON:** -113.640084 ±13ft ▲ 2807ft

Washington County HCP Evaluation Form for Assessing Project Impacts and Benefits in the Red Cliffs Desert Reserve

Proposed Project: Divario Open Space / Potential Mitigation Bank Adjacent to Zone 6		**Alternatives Considered by HCAC/County:** Not applicable
Date Assigned by HCAC/County: 8/19/2026	**Requested Deadline:** 8/19/2026	
Review Date: 8/19/2026		

Project Description and Applicant Committed Measures:

St. George City and Divario have agreed to fence a total of (up to) 19.27 acres of open space into the Reserve with assistance from the HCP. This would be comprised of up to 4 separate parcels adjacent to Zone 6 with the following acreages of each parcel: 14.5 acres, 3.11 acres, 1.33 acres, and 0.33 acres. These areas may serve as potential mitigation banks for future projects by St. George City, although there is currently no active project proposal. Each potential future project would be assessed on a case by case basis by HCP partners. The TC has been asked to evaluate the mitigation value and habitat quality of each of these areas. During a 2023 boundary adjustment proposal, the 14.5 acre and 3.11 acre parcels were surveyed for tortoises, and a significant amount of sign (burrows and scat) was found in each area. These areas were resurveyed on August 18, 2026, and tortoise sign was again found from a variety of age classes. The smaller 1.33 acre and 0.33 acre parcels were also surveyed on August 18, and no tortoise sign was found; habitat quality is similar to other two parcels, but there are concentrated human use impacts, such as social trails, on these two small parcels.

Effects Analysis:

RESERVE VALUES	CURRENT CONDITION (No Action Alternative)	ANALYSIS OF PROJECT ACTIONS & CONSERVATION MEASURES		Net Outcome
		Impacts	Benefits	
1. ANIMALS				
*Direct Effects to Tortoises (use survey, if available)**	The 'no action alternative' is that the potential mitigation/open space areas get fenced out of Zone 6. Tortoises would need to be removed from these areas since fencing would make these habitat patches very small and non-viable. This would provide stress to these animals, and they may try to move back to their original locations. Based on survey results, the 14.5 and 3.11 acre parcels likely contain higher densities of tortoises.	Fencing installation is not likely to have direct impacts to tortoises if area is surveyed in advance, and tortoise training is provided to fencing contractor(s).	No tortoises will be removed from the parcels that would be fenced into Zone 6, thus, this habitat would be available for benefit of tortoises. This provides advance mitigation for future potential projects.	Tortoises will benefit from having these parcels fenced into the Reserve since there will be no need to remove/relocate them, and tortoises will be able to continue foraging in these areas.
2. RESERVE SIZE / SHAPE				If fenced into the Reserve, occupied tortoise habitat will expand by 19.27 acres adjacent to Zone 6, and habitat will remain available for tortoises. Fencing this area next to the Reserve and installing signage will likely reduce current and future recreation impacts since trail access will be limited to approved stepovers for bikers, hikers, dogs, etc.
Permanent Impacts (acres)	While there are no plans for permanent impacts to these parcels, these areas are too small to sustain a tortoise population without access to adjacent Zone 6 habitat. Therefore, these areas would be useless for tortoises, even if no permanent impacts take place.	Fencing installation has some permanent impacts to immediate/ linear area, but it will not immediately impact the current Reserve boundary since it will be offset and outside of the current Reserve.	The amount of available tortoise habitat will expand by up to 19.27 acres adjacent to Zone 6, which would otherwise not be available if fencing is installed along the current Zone 6 boundary.	

Temporary impacts (acres) < 10 years to recover	There is potential for greater recreation impacts since the area would remain unfenced up to the current Zone 6 boundary.	Fencing installation causes some temporary ground disturbances to the immediate/linear area, but the actual Reserve/Zone 6 boundary is not being fenced.	Temporary habitat impacts are likely to be very minimal, especially compared with habitat impacts if area is left unfenced and unsigned. However, this is likely a moot point if habitat would not be available for tortoises.	
Reserve Design (area / perimeter ratio)	6,812 acres / 28,599 m = 0.238	No change	The official size of Zone 6 would remain the same, but habitat available for tortoises would expand by up to 19.27 acres (total habitat available for tortoises would be up to 6,831.27 acres)	
3. RANGE INTACTNESS (± 0-2)**	0	0	0	**Neutral**
4. CONNECTIVITY (± 0-2)**				Up to 19.27 acres of occupied tortoise habitat would be fenced into/next to the Reserve. These areas would otherwise be fragmented parcels fenced outside of the Reserve.
Fragmentation of habitat (+, -, or 0)	0	0	0	
Barriers (m)	0	0	0	
Crossing structures (# or per m)	0	0	0	
5. CONDITION				
*Habitat Quality (1-3)*** and Effects to Habitat Quality*	N/A (habitat not available for tortoises if fenced along current Zone 6 boundary)	N/A	Two larger parcels: 3 Two smaller parcels: 2	Up to 19.27 acres of occupied tortoise habitat would be fenced into/next to the Reserve with habitat quality varying between 2 and 3.
OTHER CONSIDERATIONS (if applicable)				
Effects to adjacent habitat or other concerns?	N/A	N/A	N/A	

* Results of tortoise survey should be provided to establish number of tortoises under current condition; if absent, use nearest density estimates.

** 2 = significant effects (addition or removal of barriers / mitigation), 1 = minor changes to habitat quality that could effect movement

*** 3 = high quality, unburned or recovered, dense coverage of forage plants, little to no disturbance, invasive plants not dominant; 1 = low quality, multiple burns, considerable disturbance, invasive plants prevalent; 2 = moderate habitat conditions relative to categories 1 and 3.

Summary of Net Outcomes

Up to 19.27 acres of tortoise habitat would be fenced into Zone 6 of the Red Cliffs Desert Reserve, although these areas would not officially become part of the Reserve unless a future project is approved by St. George City and HCP partners. If these parcels are fenced into the Reserve and approved as a future mitigation bank, each potential future project would be assessed on a case by case basis by HCP partners when a specific project is proposed. Habitat quality will be evaluated for mitigation purposes (see TC analysis from September 12, 2023 for possible example of past projects in the area).

Additional Recommended Conservation Measures To Reach No Net Loss Goal (*only if summary of net outcomes is negative*)

Not applicable for this assignment

Other Recommended Conservation Measures (*UDPs, biological monitor, tortoise awareness training etc*)

Ongoing fencing inspections will be conducted by HCP. Educational/conservation signage will be installed with the fencing.

TC Member Evaluations: *(Independent evaluations or considerations from TC members not already captured above)*

TC Assignment 9/12/2023

FYI

Assignment 1 –Zone 6 Boundary Adjustment

Background:

During the July 2023 HCAC meeting, Rick Rosenberg presented an updated plan for a utility easement to access the St. George City substation located just outside Zone 6 (Figure 1). In subsequent meetings with the City and other local developers, it became apparent that there were several small boundary changes in this same area that could incorporate the easement road along with other minor changes to reduce utility impacts and improve recreation management while maintaining or improving the Reserve biological values and size.

When the Reserve Zone 6 was initially created, the east boundary followed the alignment of a 2-track utility road under a set a major power lines. Since then, a more current development plan (Figures 2-3) proposes a straightened realignment of this boundary road. If approved, this road could establish a new and more defined eastern boundary for the Reserve and ensure that future utility access and maintenance activities occur outside of the Reserve. The road would also provide entry into a City substation without passing through the Reserve. The developers are also planning to provide for better recreation management in Moe's Valley. Currently, parking for Moe's Valley occurs within the interior of Zone 6 and results in many habitat impacts. While camping is not allowed, some illegal camping still occurs and is difficult to enforce. The proposed plans include an established parking area to access Moe's Valley within their development and provides for a privately managed campground outside of the Reserve. Combined, the project proponents are currently proposing to offset 6.4 acres of habitat loss at the boundary, by adding 6.4-7.8 acres in the same general area.

On September 6-7, HCP staff conducted 10-meter belt transect surveys on all of the parcels proposed for possible inclusion in the boundary adjustment. No tortoise sign was observed along the utility road or south of the substation. Tortoise sign was observed in 3 of the potential incoming parcels (Attachment 1). In December 2021, USFWS provided specific guidance to evaluate Reserve boundary modifications (Attachment 2). This guidance was previously used to authorize a similar boundary adjustment in the Grapevine area in 2022.

TC Assignment:

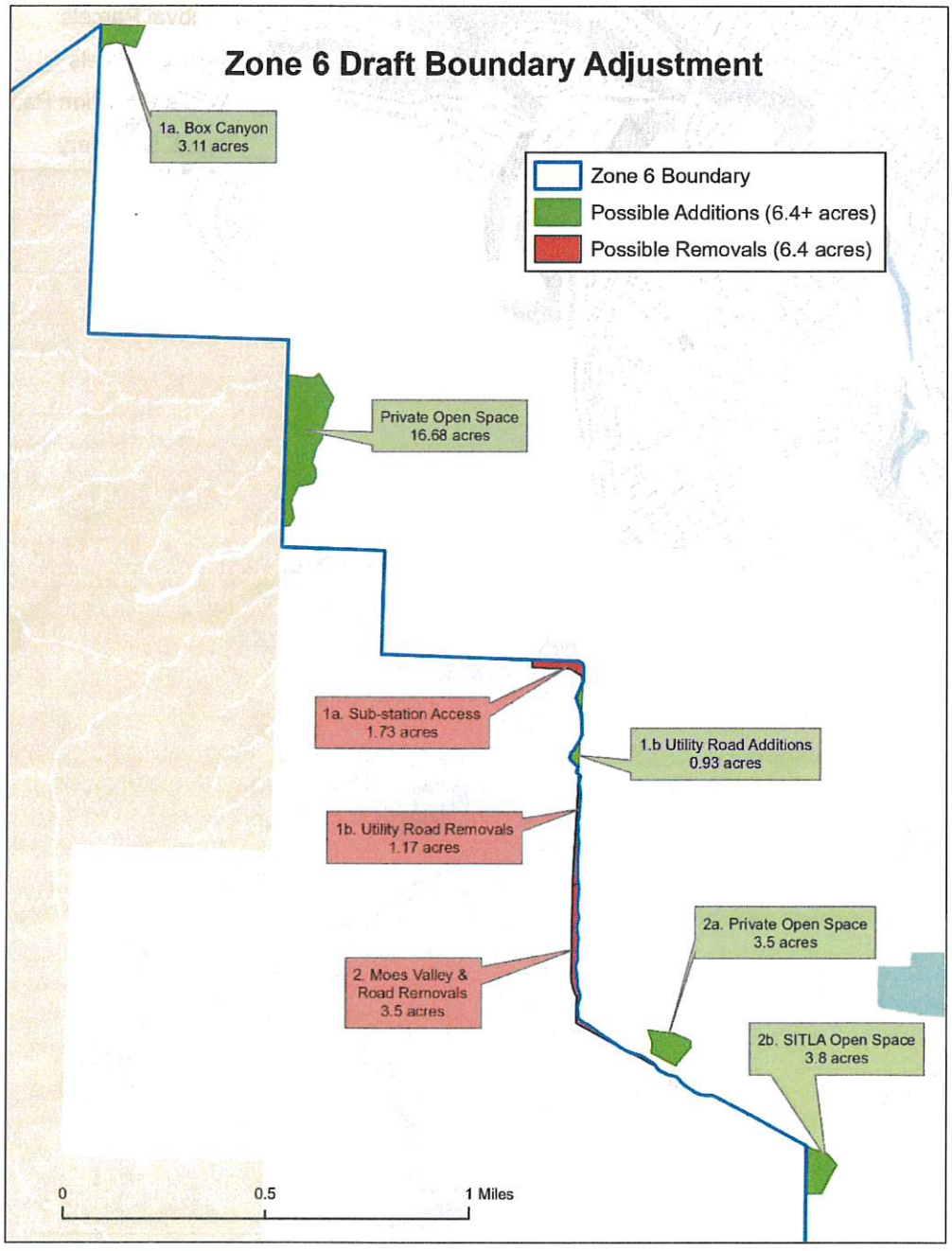
1. Please review the proposed boundary change using the USFWS guidance and approved evaluation form.
2. Provide a recommendation to the HCAC and County regarding the project impacts and benefits to determine if the proposed project meets the biological conditions for boundary change. If it falls short, provide a recommendation on how it could meet the required conditions for a boundary change.

Tortoise Survey Report for Zone 6 Boundary Adjustment

9/8/2023

Background

During the July 2023 HCAC meeting, Rick Rosenberg presented an updated plan for a utility easement to access the St. George City substation (near Green Valley Gap) located just outside Zone 6 of the Red Cliffs Desert Reserve. A total of 6.4 acres are proposed for removal from the Reserve along the eastern boundary of Zone 6 between the substation and Moe's Valley. In exchange, project proponents are proposing between 6.4-7.8 acres for addition to the Reserve, mostly in contiguous areas. All areas proposed to be added or removed from the Reserve are on private, SITLA, or St. George City lands (Figure 1 - below).



Methods

Four Washington County HCP employees surveyed the 6.4-acre proposed removal areas and 28.02 acres of potential Reserve addition areas on September 6 and 7, 2023. U.S. Fish & Wildlife (USFWS) protocols were followed by walking 10-meter belt transects throughout each survey area. Surveys were completed between the hours of 8:30 AM and 12:30 PM.

Figure 2. Completed belt transects within proposed removal and southern addition parcels

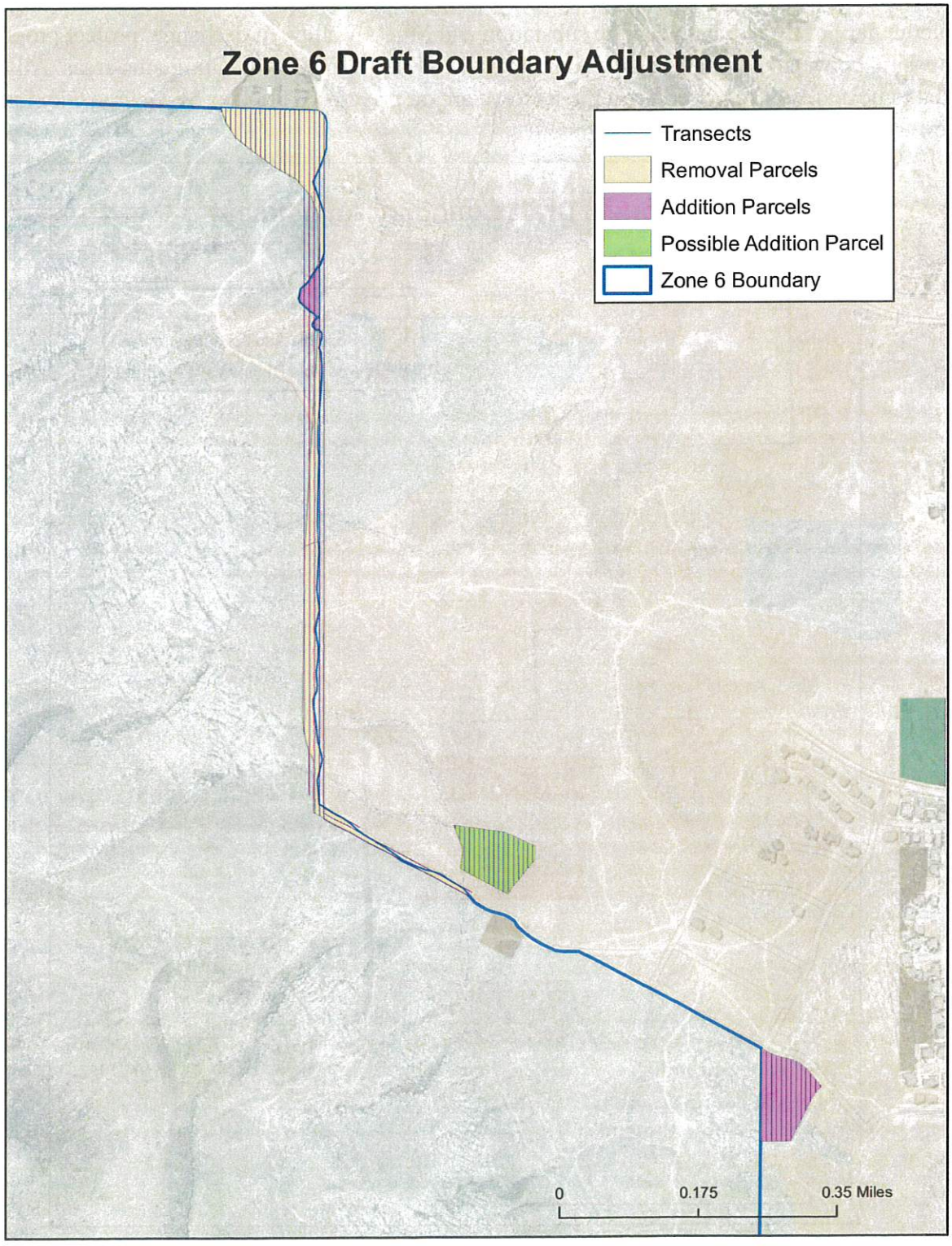
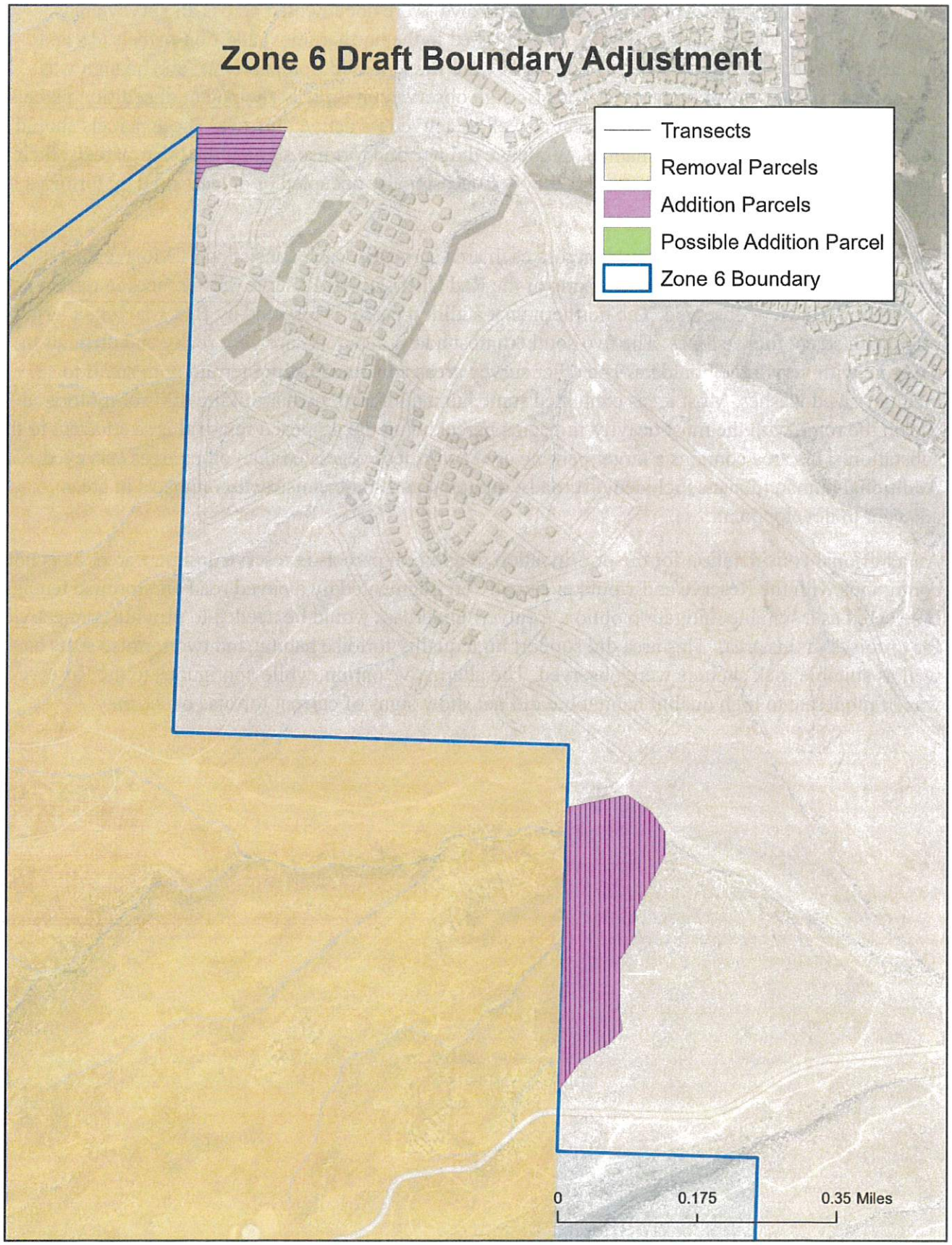


Figure 3. Completed belt transects within northern addition parcels



Results, Habitat, & Discussion

A total of 30 tortoise sign detections (scat and burrows) were documented across all survey areas (Figure 4). The majority of this sign was concentrated in the northernmost addition parcels (1a and private open space parcels). Two scat detections were found in addition parcel 2a, and no sign was documented in the remaining parcels. Tortoise sign observed on three of the potential addition parcels consisted of a mix of recent and older scat as well as active/less active burrows. These parcels should be considered occupied tortoise habitat. While we did not find tortoise sign on the other parcels, their proximity to quality habitat suggests that they are occasionally occupied or at least used by tortoises occasionally passing through.

Vegetation types were mostly similar across each area surveyed, each consisting of Mojave desert scrubland habitats similar to adjacent parts of the Red Cliffs Desert Reserve. Differences in terrain and human impacts were observed. The northernmost addition parcel is bisected by Box Canyon, a large wash with steep, rocky slopes. The two southernmost addition parcels are very rocky and difficult to navigate with very large boulders. The other survey areas contained rolling terrain with small to medium-sized washes. Most areas contained some human impacts such as biking trails or motorized use on the road, with the most heavily-impacted parcel being the proposed removal area adjacent to the substation. This area contains a larger parking area and is less vegetated than other areas surveyed. Additional human impacts included dirt roads, dumping and some construction impacts in areas adjacent to development.

An additional consideration for the prioritization of addition parcels is reserve design. Parcel 2a is not contiguous with the Reserve and would eventually be fragmented by a paved road and tortoise fencing. If selected as a suitable mitigation option, a culvert/underpass would be needed to provide connectivity for tortoises in this area. This area did support high quality tortoise habitat and two tortoise scats as well as suitable rock shelters were observed. The alternative option, while contiguous to the Reserve, was of moderate to high quality habitat but did not show signs of current tortoise occupancy.

Figure 4. Map of documented tortoise sign