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Technical Memorandum

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Project RCM Recreational Mitigation Support
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1 Introduction and Purpose

The purpose of this memo is to present the current and future status of climbing area access and identify planned mitigation options for climbing resources that may be impacted as a result of the Resolution Copper project. Climbing resources and potential losses were identified and quantified in the Climbing Resources Inventory Memorandum (WSP | Parsons Brinckerhoff, 14 April 2017). The primary areas of the Queen Creek Climbing Area identified in the Climbing Resources Tech Memo are (see **Figure 1**):

- The Pond (in Queen Creek Canyon, above US 60)
- Atlantis (in Queen Creek Canyon, below US 60)
- Oak Flat (south of the Oak Flat Campground)
- Euro Dog Valley (between FR 469 - Magma Mine Road and the East Plant Site)
- The Mine Area (between FR 469 - Magma Mine Road and the Apache Leap Cliff, southwest of the East Plant Site)
- Apache Leap Escarpment
- Northern Devils Canyon (generally north of US 60)
- Upper Devils Canyon (south of US 60, east of Oak Flat)
- Lower Devils Canyon (Devils Canyon, in the area of Rancho Rio Canyon and Hackberry Creek)
- Hackberry Creek and the Refuge (upper Hackberry Creek).

Based on the climbing resources inventory study, the primary areas that would be impacted due to the Resolution Copper project are Oak Flat, Euro Dog Valley, and the Mine Area climbing area. Oak Flat and Euro Dog Valley are within the area of potential land subsidence and the Mine Area is within the area of the planned East Plant Facilities (Shaft 12 and associated infrastructure). Bouldering is the primary resource lost at Oak Flat, as well as at Euro Dog Valley. Roped climbing routes both bolted sport routes and to a lesser extent traditionally protected routes, will be lost at both Euro Dog Valley and in the Mine Area. The subsidence zone will eventually eliminate access to Lower Devils Canyon and Hackberry Creek/the Refuge via the Magma Mine Road and northern FR 315, so alternative access will be required to these areas.

Because the bulk of the impacts are to Oak Flat and Euro Dog Valley, which are inside the subsidence zone, mitigation considerations include the type of climbing (bouldering vs roped climbing) and the proximity to/driving time from Superior.

2 Access, Land Ownership, and Proposed Mitigation

Current and future access, as well as proposed mitigation are presented in **Table 1** and described in more detail below.

2.1 The Pond and Atlantis

The Pond and Atlantis are the two most popular sport climbing areas in the area and are on Resolution Copper property. These are on RCM property and currently open to climbing through the Recreational Use Lease Agreement with QCC and will remain open through this agreement. Parking for these areas are the large pullouts on the south side of US 60, east of the tunnel (see

Figure 2). Resolution Copper has provided signage at the parking areas. There is also an agreement between REI and Resolution Copper so REI can hold climbing classes at these areas.

2.2 Oak Flat

The area south of Oak Flat Campground is the most popular and extensive bouldering area at Queen Creek. It is currently open and accessed through the Oak Flat Campground. It is within the land exchange parcel. This area will need to be closed because it lies within the subsidence zone. Planned mitigation is through substitution with a new access road to the Inconceivables and Chill Hill boulders (described more later in this memo).

2.3 Euro Dog Valley

Similar to the Oak Flat boulders, Euro Dog Valley is currently open, but is part of the land exchange parcel and will be in the subsidence zone. Planned mitigation is through substitution with a new access road to the Inconceivables and Chill Hill boulders.

2.4 The Mine Area

The Mine Area is currently on a combination of USFS and RCM land, but following the Land Exchange will be owned by RCM. Currently parking is along FR 469 – Magma Mine Road immediately south of the East Plant Site security gate (see **Figure 3**).

Due to expansion of mine surface facilities some portion of the Mine climbing area will be impacted and due to subsidence the Magma Mine Road will be re-routed around the subsidence. Planned mitigation is through substitution with a new access road to the Inconceivables and Chill Hill boulders. However, it may be possible to assess future access to the Mine Area through an access trail from US60, along the north side of the East Plant site. The exact alignment of this access route has not been determined, but the trail would need to completely avoid the Apache Leap Special Management Area. Part of the Mine Area (Upper Looner Land and Lower Looner Land and area to north) will be closed to climbing as the East Plant Site will be expanded to the south of the current East Plant Site.

2.5 Apache Leap

The Apache Leap climbing is primarily on USFS property and is generally accessed from above from the Mine Area (accessed from the Magma Mine Road) for the northern area (Rim Gym, Punk Rock, Headstone, Musicland Wall) and from FR 2440 – Cross Canyon Road for the southern area (the Fin, Toyekoyah, Geronimo) (see **Figure 4**). It can also be accessed from FR 315 south of the Magma Mine Road. Because access from the Magma Mine Road and FR 315 will eventually be closed, alternative access may be provided for the northern area via a possible access trail from US 60, as described above for the Mine Area, however it must also avoid the Apache Leap Special Management Area. Access to the southern area will remain from FR 2440 – Cross Canyon Road. Apache Leap is currently open, but in the future access will be controlled by the climbing management plan developed for the Apache Leap Special Management Area.

2.6 Northern Devils Canyon

Northern Devils Canyon is on USFS property and is primarily north of US 60. This area is accessed from below via US 60 and from above via FR 342 - N. Cerro Rd (see **Figure 5**). This area is currently open to climbing and will remain open to climbing subject to USFS regulations. The Resolution Copper Project is not in this area and is not expected to affect access.

2.7 Upper Devils Canyon

Upper Devils Canyon is on USFS property, south of US 60 and east of Oak Flat. This area is currently accessed from FR 2438 and other small dirt roads in the area (FR 2438 B, FR 2439) (see **Figure 6**). This area is currently open to climbing and will remain open to climbing subject to USFS regulations. A small part of FR 2438 may be affected by the subsidence zone and access may still be provided via FR 2439.

2.8 Lower Devils Canyon, Hackberry Creek, The Refuge

Lower Devils Canyon, Hackberry Creek, and The Refuge are on State Trust land and currently open. Access is provided by FR 315 south from the Magma Mine Road, but this road is extremely rough (not maintained to maintenance level 2, as designated) (see **Figure 7**). Existing access from the south via FR315 from AZ 177 is currently open and will not be impacted by Resolution Copper activities. Additional alternative access may be provided via a potential monitor well access road between the subsidence zone and Devils Canyon to well HRES-7 (between Rancho Rio Canyon and Hackberry Creek). This road will not be constructed until subsidence necessitates this road. Alternative access from the east via FR 2466 – Rawhide Road is also currently open, but that road is long and rough (requiring about 1 hour drive time from US 60) with a long hike to access the bulk of the climbing that is west of Devils Canyon, particularly the Refuge.

2.9 Proposed Road to the Inconceivables and Chill Hill Boulders

The Inconceivables and Chill Hill boulders are high quality quartzite boulders about 5 miles south of Superior, but are currently difficult to access, requiring a 2.5-mile hike from FR 319 - Goatwater Spring Road, much of it without a proper trail. As mitigation for loss of bouldering at Oak Flat and Euro Dog Valley, Resolution Copper proposes to construct an access road from FR 319 to this area (see **Figure 8**). The proposed road will be constructed to be maintenance level 2 – passable by high clearance vehicles. This road is described in detail in Technical Memorandum – Inconceivables Preliminary Road Routing Update I (Westland Resources, 2020).

Table 1: Queen Creek Climbing Area Access and Mitigation

Area	Current Status; Access	Future Status, Access, and Mitigation
The Pond	Open; Access via US 60. Access provided administratively through agreement with QCC.	The mine will not impact. The climbing area will remain open with access via US 60.
Atlantis	Open; Access via US 60. Access provided administratively through agreement with QCC.	The mine will not impact. The climbing area will remain open with access via US 60.
Oak Flat	Open; Access via Oak Flat Campground	May eventually be impacted by subsidence. In collaboration with local climbers, Resolution has agreed to construct a new access road to the Inconceivables and Chill Hill boulders.
Euro Dog Valley	Open; Access via Magma Mine Rd	May eventually be impacted by subsidence. In collaboration with local climbers, Resolution has agreed to construct a new access road to the Inconceivables and Chill Hill boulders.
The Mine Area	Open; Access via Magma Mine Rd	Mining impacts will likely include closure of the current access route via Magma Mine Rd. and closure of some of the climbing area. Resolution will work with local climbing groups and climbers to evaluate the feasibility of an alternate access route (trail).
Apache Leap	Open-Access via Magma Mine Rd and FR 315	Open; Access via Magma Mine Rd and FR 315 will be closed due to mining impacts. Resolution will work with local climbing groups and climbers to evaluate the feasibility of an alternate access route (trail) to the Mine area to provide access to Apache Leap from above. Although access from FR 2440 (Cross Canyon Road) will not be impacted by mining activities, there may be possible restrictions for climbing as a result of the climbing management plan for Apache Leap Special Management Area.
Northern Devils Canyon	Open; Access from US 60 and FR 342 (N. Cerro Rd)	Open; Access from US 60 and FR 342 (N. Cerro Rd) will remain unchanged.
Upper Devils Canyon	Open; Access from FR 2438 and/or FR 2439 via FR 469 (Magma Mine Road)	Open; Access from FR 2438 and/or 2439 via FR 469 (Magma Mine Road) will most likely remain. However, in the event that parts of FR 2438 are closed due to subsidence, Resolution will work with local climbing groups and climbers to evaluate the feasibility of an alternate access route.
Lower Devils Canyon, Hackberry Creek/The Refuge	Open; Access via FR 315 and Magma Mine Rd from US 60 and via FR 315 from SR 177	Open; Access will remain from the south via FR 315 from SR 177, but access from the north via FR 315 from Magma Mine Rd will be closed.

Figure 1: Queen Creek Climbing Areas

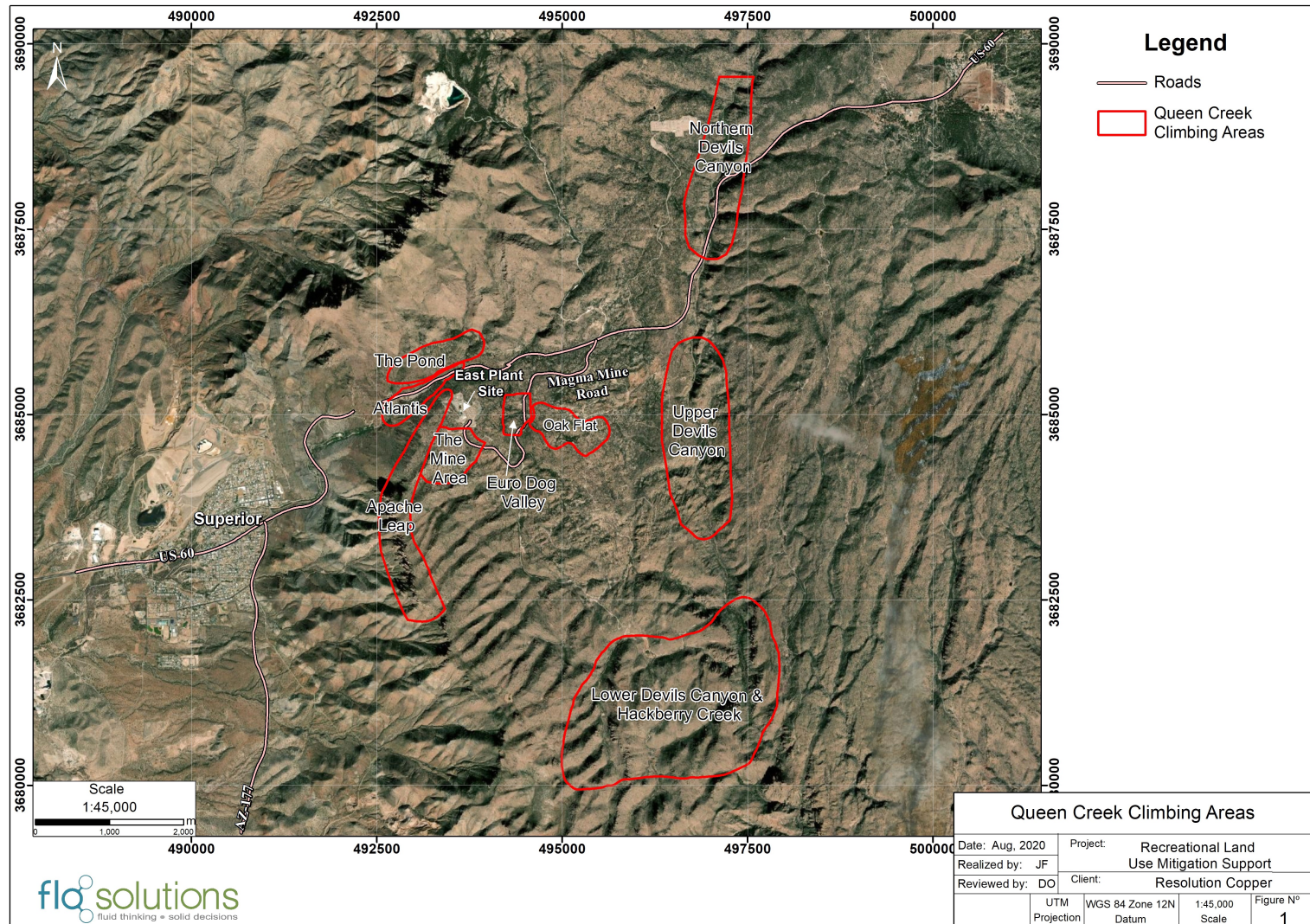


Figure 2: The Pond and Atlantis current and future parking and access

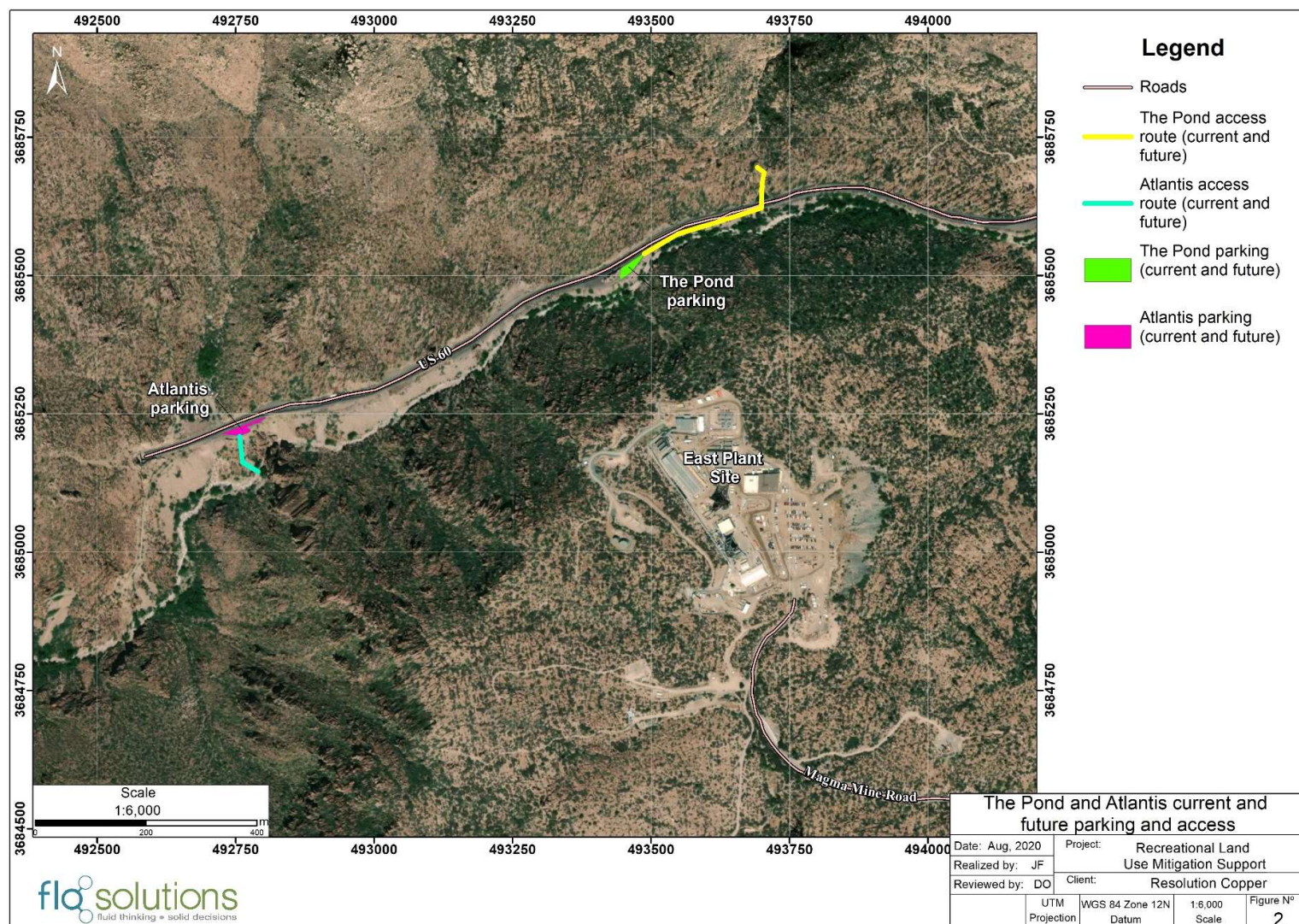


Figure 3: The Mine Area current and future parking and access

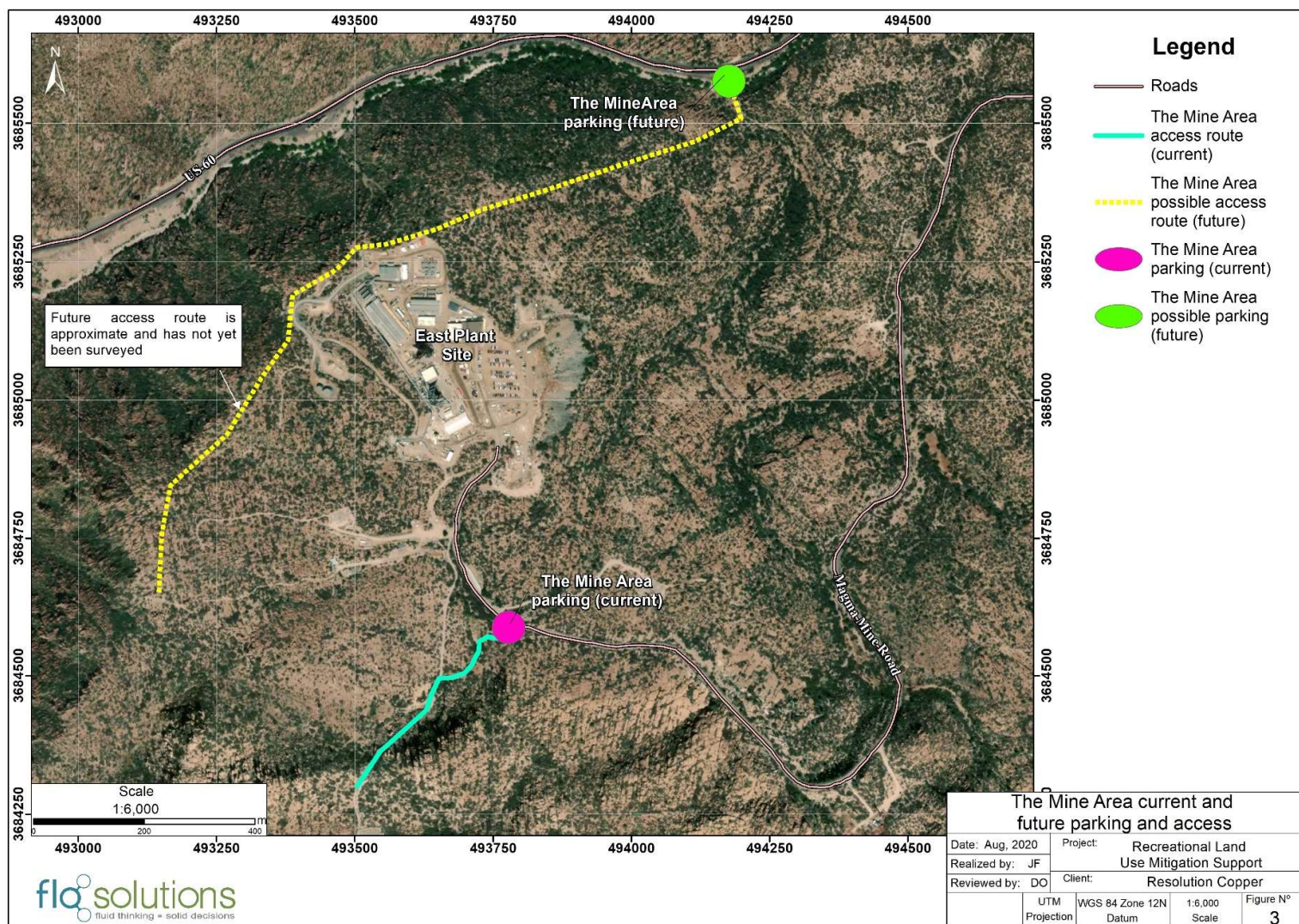


Figure 4: Apache Leap current and future parking and access

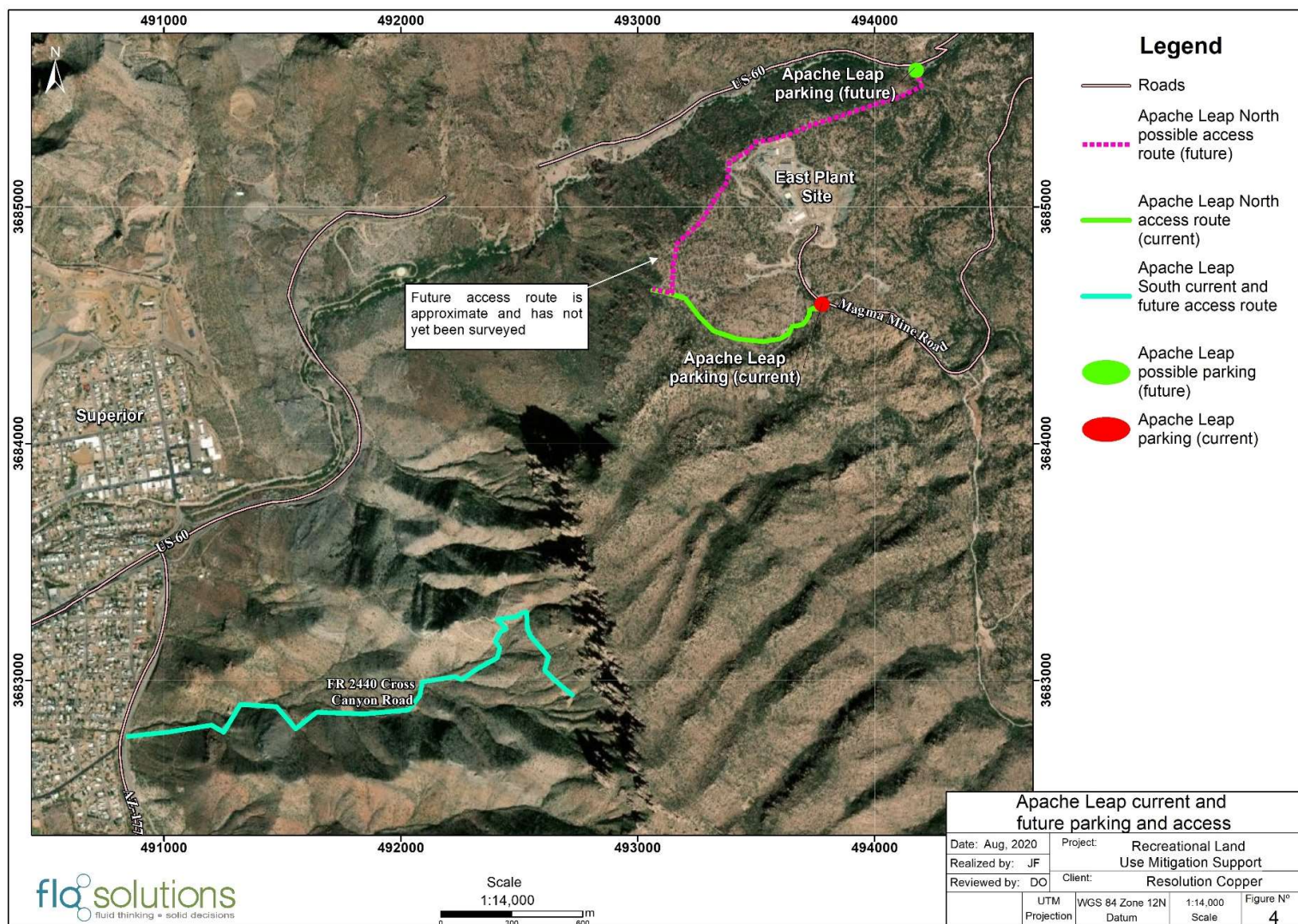


Figure 5: Northern Devils Canyon current and future parking and access

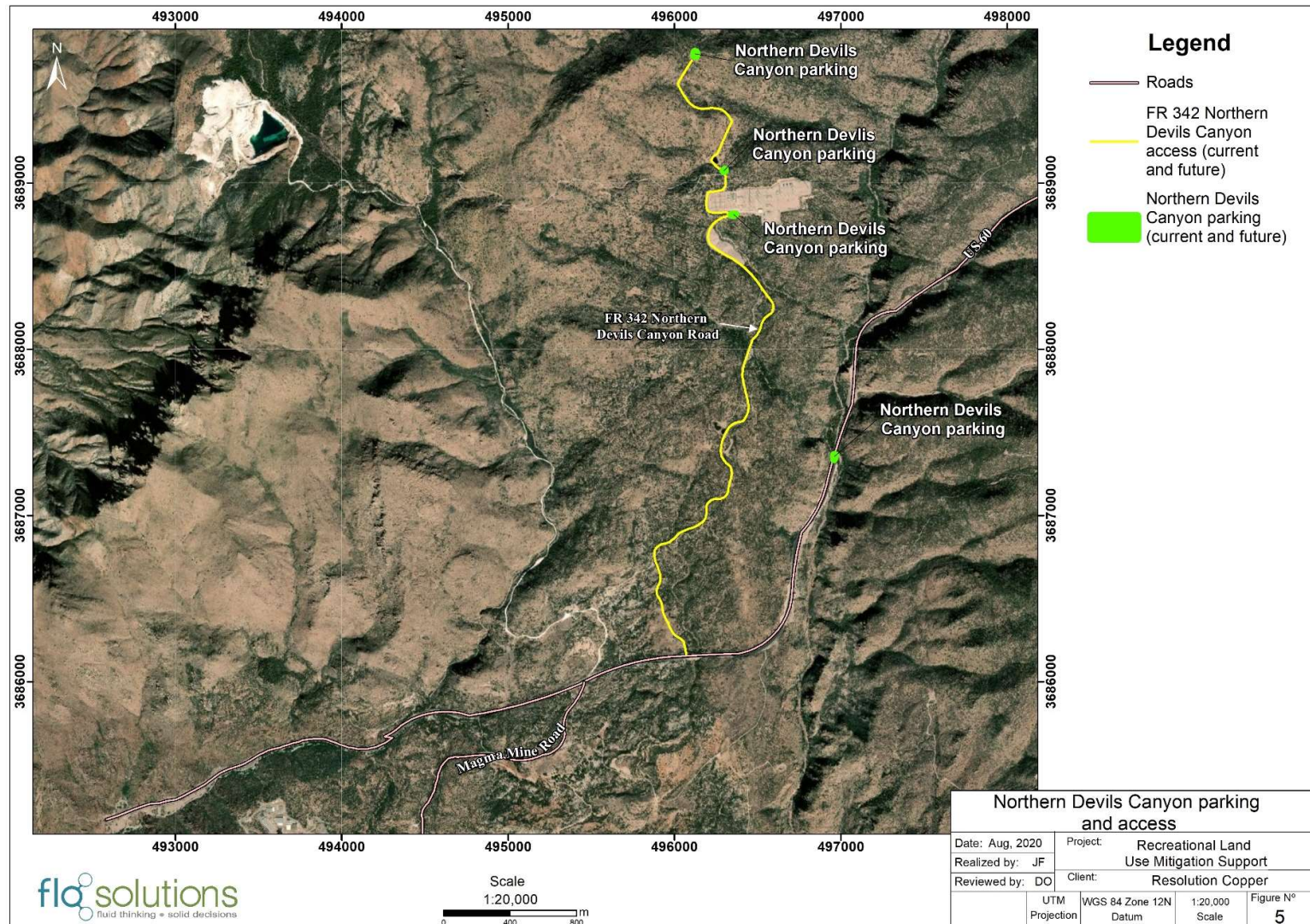


Figure 6: Upper Devils Canyon current and future parking and access

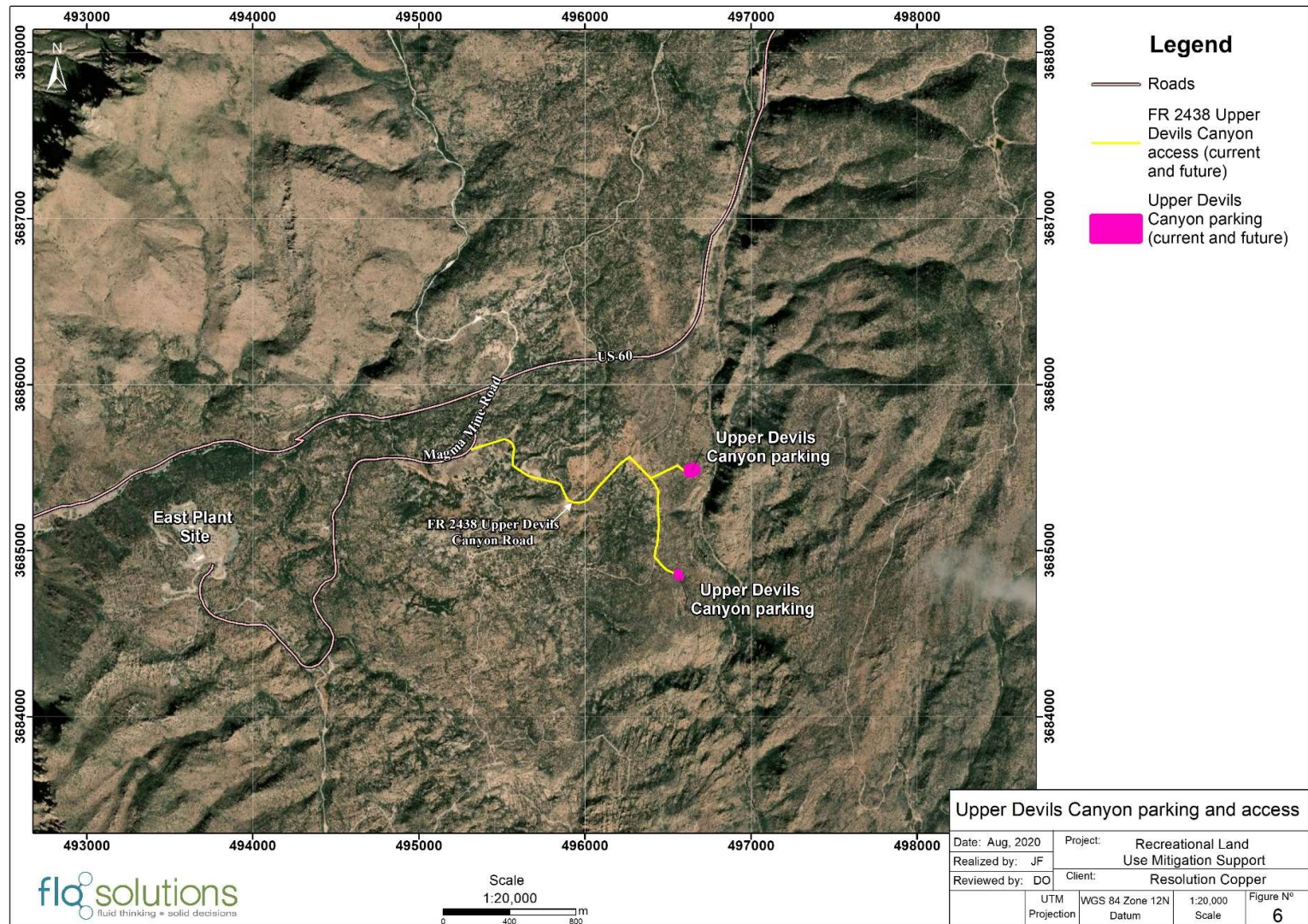


Figure 7: Lower Devils Canyon and Hackberry Creek current and future access and parking

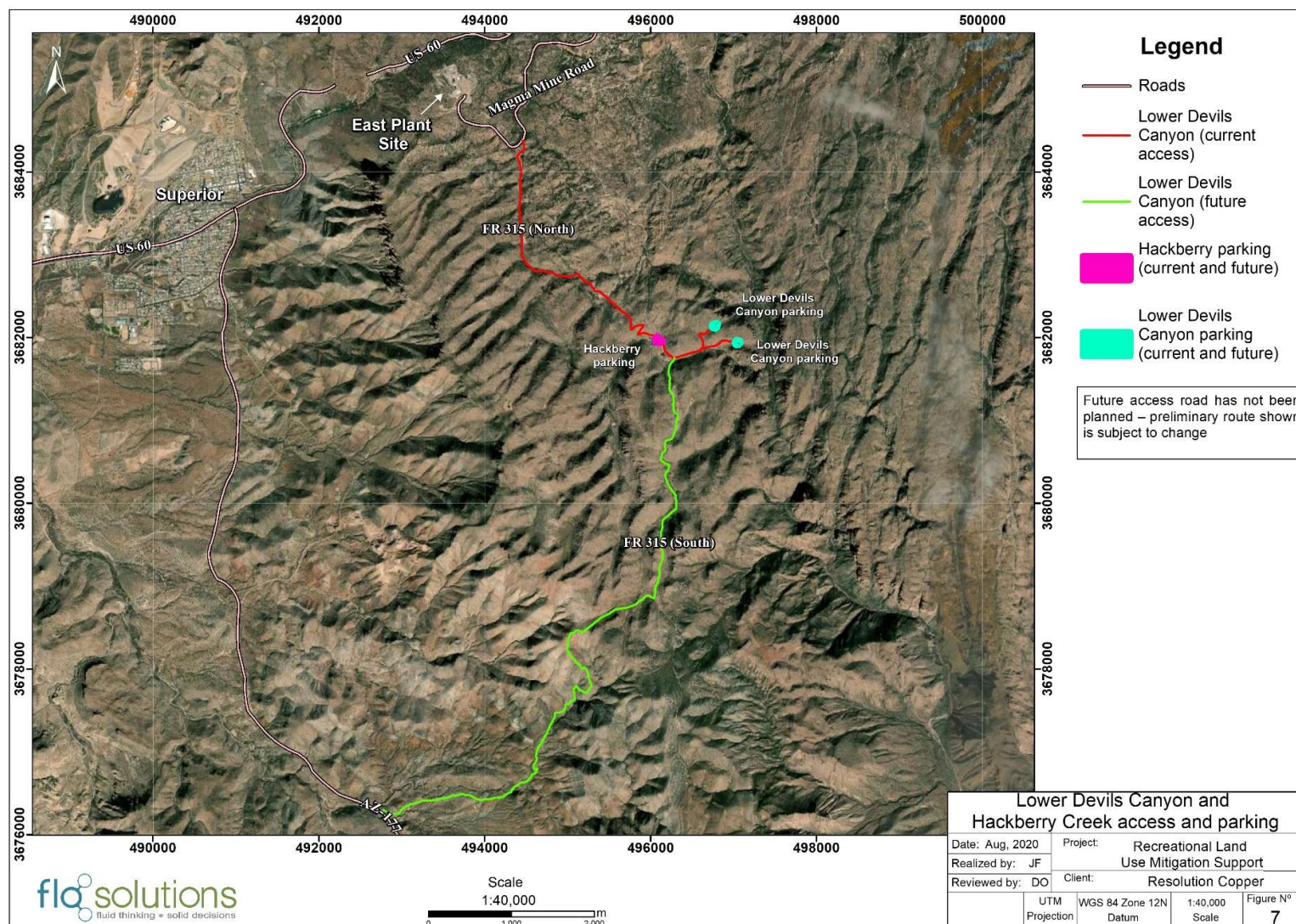


Figure 8: Preliminary Road Routing to Inconceivables

