

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 42130 |
| Survey Date | 04/03/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | 113 South |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 174.158233642578 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 25 feet |
| Height | 8 |
| Width | 8 |
| Length | 60 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Potential |
| Describe constraint | Heavy water flow after rain is possible. |
| Evidence of other animals? | No |

| | |
|----------------------------------|--|
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire approx 20 feet from culvert entrance on westbound side which parallels road. |
| Consider for camera? | Yes |
| Camera suggestions | At entrance and exit of culvert. |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



camera C21



camera C21

Comments

This large culvert, at eight feet in diameter, is accessible and seemingly ideal for transit of larger wildlife. It allows the San Diego River to pass beneath SR 78. This location is about 250 meters south of P113. The culvert lies far below the road, resulting in less than

normal traffic noise. Human access to both sides of culvert extremely difficult due to heavy vegetation and steep drop off from road. This is the best crossing location in this area. Flow of water is from north to south under 78. Corridor is north-south through natural riparian landscape with good cover.

Management
recommendations

Barrier fencing. Directional fencing to funnel wildlife to this crossing location.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 20928 |
| Survey Date | 08/08/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | 42P |
| Drop Point (Lat/Long) | |
| Latitude | 33.43873 |
| Longitude | -117.138721 |
| Speed | 0.0 m/s |
| Direction | 87.0849151611328 degrees from N |
| Altitude | 365.821048736572 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 200 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Northbound side: 40 meters east of I-15 is small residential area. To the east of that is Rainbow Canyon road |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 30 feet on SB side |
| Height | 5 |
| Width | 5 |
| Length | |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Housing on NB side. |
| Constraints | Yes |
| Describe constraint | Residential area, one or two homes/ private property on NB side. Rainbow Canyon Road to the east of NB side. Moderate traffic noise at culvert entrance SB side. |
| Evidence of other animals? | Yes |

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| Describe evidence of other animals present | Game Trails Dogs on private property to east. Unable to access this area which may have culvert entrance |
| Fencing present? | Yes |
| Describe fencing type and height | 6 foot chain link parallel to I 15 at bottom of embankment on NBside 30-40 meters from freeway. Borders private property. Additional intermittent fencing between private property and Rainbow Canyon Rd. There is 6 foot barbed wire running N-S 100 meters from I 15 on SB side. |
| Consider for camera? | |



SB



SB



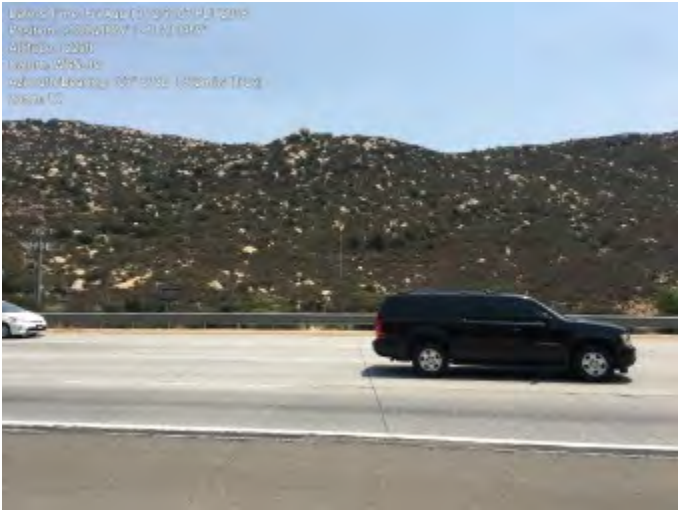
SB



SB



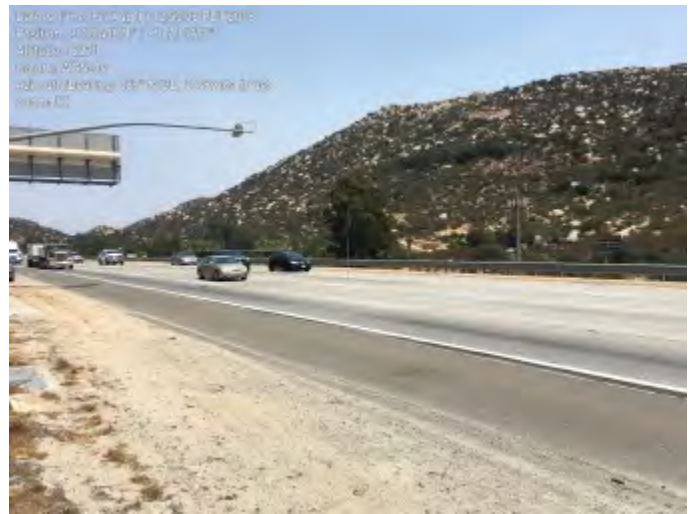
SB



SB



SB



SB



SB



NB



NB



NB



NB



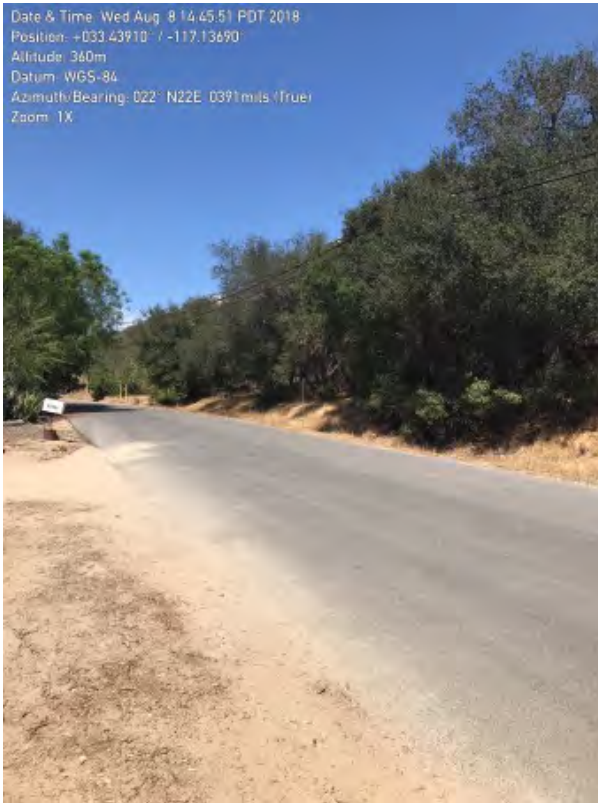
NB



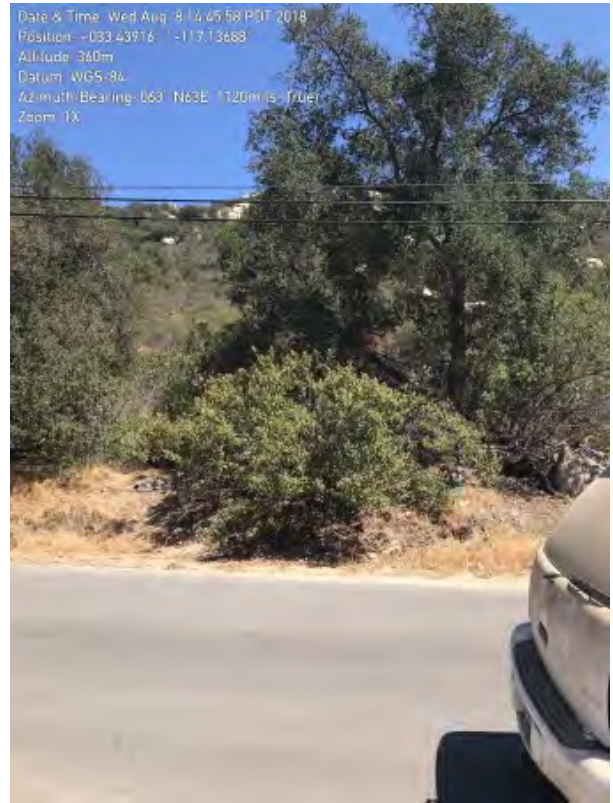
Rainbow Valley Road



Rainbow Valley Road



Rainbow Valley Road



Rainbow Valley Road

Comments

Landscape on SB side conducive to crossing location. Possibility of culvert at bottom of embankment NB side. Presence of dogs prevented thorough investigation. Evaluate for presence on NB side of I-15 here. Culvert notes on SB I15. May need to access private property to locate culvert access on NB side.
 Natural terrain with excellent cover for wildlife movement on SB side. This leads up tree filled canyon to the west.

Management recommendations

Barrier fencing. Further recommendations pending location of culvert opening on NB side.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 21046 |
| Survey Date | 08/10/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | 43P |
| Drop Point (Lat/Long) | |
| Latitude | 33.462129 |
| Longitude | -117.136111 |
| Speed | 0.0 m/s |
| Direction | 326.620758056641 degrees from N |
| Altitude | 358.453861236572 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | <i>Canis latrans</i> / Coyote |
| Structure type | Round culvert |
| Culvert distance below road | 25 meters on NB side. 10 meters on SB side. |
| Height | 8 |
| Width | 8 |
| Length | 350 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Fairly steep gradient falling from west to east. Estimate angle at approx. 25 degrees when visualized from east side. Exit of culvert on NB side at southern margin of golf course. Traffic noise inside culvert fairly significant. Water flow during rain. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Coyote and rabbit scat. Numerous game Trails. Ground squirrels observed. |
| Fencing present? | Yes |

| | |
|----------------------------------|---|
| Describe fencing type and height | Four foot barbed wire in disrepair, surrounding culvert exit on NB side. Minimal barbed wire on SB side. Running NS approx. 15 meters from culvert entrance. High level of disrepair. |
| Consider for camera? | Yes |
| Camera suggestions | Around culvert exit NB I-15. Around culvert entrance SB I 15. |



NB



SB



NB



NB



NB



NB

Date & Time: Fri Aug 10 06:49:33 PDT 2018
 Position: +033.46217° / -117.12600°
 Altitude: 11405'
 Datum: WGS-84
 Azimuth Bearing: 330° SWS 3491 mile (True)
 Zoom: 1X



NB

Date & Time: Fri Aug 10 06:51:09 PDT 2018
 Position: +033.46242° / -117.12614°
 Altitude: 11729'
 Datum: WGS-84
 Azimuth Bearing: 139° SWS 3491 mile (True)
 Zoom: 1X



NB

Date & Time: Fri Aug 10 08:14:15 PDT 2018
 Position: +033.46239° / -117.12530°
 Altitude: 10930'
 Datum: WGS-84
 Azimuth Bearing: 232° SWS 3102 mile (True)
 Zoom: 1X



NB



NB

Date & Time: Fri Aug 10 08:15:55 PDT 2018
 Position: +033.46242° / -117.12542°
 Altitude: 10930'
 Datum: WGS-84
 Azimuth Bearing: 232° SWS 3102 mile (True)
 Zoom: 1X



NB

Date & Time: Fri Aug 10 08:51:55 PDT 2018
 Position: +033.46242° / -117.12542°
 Altitude: 10930'
 Datum: WGS-84
 Azimuth Bearing: 232° SWS 3102 mile (True)
 Zoom: 1X



NB



NB



NB



NB



SB



SB



SB



SB



SB



SB



SB

Comments

Very large culvert access on NB side. (8 feet). This downslope exit lies at the base of a 25 meter slope which drops from NB lanes of I-15. The traffic noise is minimal at base of slope, but moderate inside of culvert. The grade within the culvert is approx. 25 degrees from entrance to extent of visibility. The terrain and landscape at the culvert exit are natural. Good cover/protection here. It would be useful to ascertain the angle of ascent beyond the first 15 meters of the culvert. There is no visibility from one side of culvert to the other. Metal base of culvert may be slippery at this angle. Entrance at NB of culvert is downslope and approx. 40 meters from I-15. Culvert entrance on SB I-15 is downslope and

Is 10 meters below I-15 grade and 15 meters west of I-15 at bottom of steep grade. Approach to this location from west is natural habitat with many oaks and sycamores. Cannot see through culvert from west side. Angle of descent from west side fairly flat. Noise at base of embankment here is moderate.

Management recommendations

Sound insulation within culvert. Vertical shafts for illumination. Directional fencing. Barrier fencing to prevent freeway access.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 19479 |
| Survey Date | 07/26/2018 |
| User | Jamie Bourdon |
| Highway name | I-15 |
| Location | 44P |
| Drop Point (Lat/Long) | |
| Latitude | 33.474615 |
| Longitude | -117.138851 |
| Speed | 0.610000014305115 m/s |
| Direction | 41.7144660949707 degrees from N |
| Altitude | 300.54260635376 m |
| Accuracy | m |
| Surveyor | |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 188 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - 2 spans |
| Height | 30 |
| Width | 250 |
| Length | 188 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Year round - not obstructing movement |
| Human presence likely at night? | Yes |
| Describe human presence potential | Graffiti. Transient encampments. |
| Constraints | Yes |
| Describe constraint | Extensive Noise pollution. Human presence day and night under and near under crossings. Heavy construction adjacent to undercrossing (79 interchange). 1-2 km West of undercrossing is daily swim and recreational spot for trespassers. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Coyote tracks and scat. Raccoon and Bobcat tracks. Game trails throughout. |
| Fencing present? | No |
| Consider for camera? | Yes |

Camera suggestions

2 cameras east along game trail along creek.. 1 camera west along creek. 1 camera along western game trail. 1 camera along north eastern edge along road exit. Photos and coordinates to follow



Camera location West of overpass. Removed 17Sept2018





Removed 17Sept2018





NF-5



Camera # NF 3 placed 10-31-18. Up in tree facing west approx. 300 yards west of Temecula Creek overpass



Camera NF 3 placed 10-31-18. Located up in tree facing west approx. 300 meters west of Temecula Creek Bridge.

| | |
|----------------------------|---|
| Comments | Removed West cameras 17Sept2018. Relocating Oct2018 |
| Management recommendations | <p>Sound barrier options along bridge and/or undercrossing. 8-10' directional barrier/security fencing deterring access to undercrossing and ravine. Potential speed enforcement/prevention of j-braking Prevention of Further development to the east.</p> <p>Temecula creek can experienced flooding in heavy rains, camera and management recommendations should take this account.</p> |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 21520 |
| Survey Date | 08/14/2018 |
| User | Rich Codington |
| Highway name | 79S |
| Location | 48P |
| Drop Point (Lat/Long) | |
| Latitude | 33.488775 |
| Longitude | -117.054229 |
| Speed | 0.0 m/s |
| Direction | 113.479888916016 degrees from N |
| Altitude | 354.76681137085 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 12 |
| Width | 280 |
| Length | 25 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Heavy use by homeless/migrants. Graffiti present. Trash, furniture, etc. Easy access for humans from both sides of 79 here. Multiple trails leading off north and south. |
| Constraints | Yes |
| Describe constraint | Traffic noise from well travelled 2 lane road. Truck traffic also. Human encampments and major human activity. Dirt road access to river valley on north side of 79. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Tracks, coyote scat. |
| Fencing present? | Yes |

| | |
|----------------------------------|--|
| Describe fencing type and height | 6 foot chain link and barbed wire in disrepair extending from roadway on west side several hundred yards to north. |
| Consider for camera? | |

Photos

Date & Time: Tue Aug 14 14:01:17 PDT 2018
Position: -003 48842 -117 05405
Altitude: 1158ft
Datum: WGS-84
Azimuth/Bearing: 018° N18E 1922mils (True)
Zoom: 1X



EB

Date & Time: Tue Aug 14 14:01:12 PDT 2018
Position: -003 48842 -117 05405
Altitude: 1158ft
Datum: WGS-84
Azimuth/Bearing: 089° N89E 1982mils (True)
Zoom: 1X



EB

Date & Time: Tue Aug 14 14:27:58 PDT 2018
Position: -003 48895 -117 05445
Altitude: 1172ft
Datum: WGS-84
Azimuth/Bearing: 013° N13E 1023mils (True)
Zoom: 1X



EB

Date & Time: Tue Aug 14 14:25:46 PDT 2018
Position: -003 48901 -117 05440
Altitude: 1155ft
Datum: WGS-84
Azimuth/Bearing: 149° S49E 1949mils (True)
Zoom: 1X



EB

Date & Time: Tue Aug 14 14:01:15 PDT 2018
Position: -003 48842 -117 05405
Altitude: 1158ft
Datum: WGS-84
Azimuth/Bearing: 359° S01W 1892mils (True)
Zoom: 1X



EB

Date & Time: Tue Aug 14 14:28:59 PDT 2018
Position: -003 48917 -117 05452
Altitude: 1172ft
Datum: WGS-84
Azimuth/Bearing: 105° S75E 1857mils (True)
Zoom: 1X



EB



EB



EB



WB



WB



WB



WB



WB



WB



WB



WB

Comments

This crossing is beneath a 2 lane overpass. It is a short crossing from north to south under the road. It is a wide east to west span with multiple concrete pillars separating undercrossing into 6 sections. All but one show evidence of significant human activity. Noise underneath overpass is moderate-plus due to minimal height of bridge. Other than trash and encampments, area under bridge is clear. Riverbed to north and south is undeveloped with reasonably good natural cover from vegetation. There is a non gated dirt road access to this river valley from north side. Easy access to this dirt road from 79.

Management recommendations

Sound insulation. Barrier fencing. Directional fencing. Significant effort to prevent human presence. Locked gate to dirt road access.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 21532 |
| Survey Date | 08/14/2018 |
| User | Rich Codington |
| Highway name | 79S |
| Location | 49P |
| Drop Point (Lat/Long) | |
| Latitude | 33.486749 |
| Longitude | -117.047677 |
| Speed | 0.0 m/s |
| Direction | 230.80207824707 degrees from N |
| Altitude | 370.356402077902 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 5 feet. |
| Height | 1 |
| Width | 1 |
| Length | 50 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Culvert diameter too small for wildlife travel. Current crossing is at grade. Traffic noise. Moderate high speed traffic. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Lizards, gophers, multiple game trails leading from habitat to the south. |
| Fencing present? | No |
| Consider for camera? | No |

Photos

Date & Time: Tue Aug 14 15:29:32 PDT 2018
Position: +003 48662 / -117 04791
Altitude: 1215ft
Datum: WGS-84
Azimuth Bearing: 20° S28W 371mils (True)
Zoom: 1X



EB

Date & Time: Tue Aug 14 15:29:32 PDT 2018
Position: +003 48669 / -117 04792
Altitude: 1214ft
Datum: WGS-84
Azimuth Bearing: 09° S82E 1742mils (True)
Zoom: 1X



EB

Date & Time: Tue Aug 14 15:28:22 PDT 2018
Position: +003 48655 / -117 04796
Altitude: 1211ft
Datum: WGS-84
Azimuth Bearing: 01° N19E 1808mils (True)
Zoom: 1X



EB

Date & Time: Tue Aug 14 15:28:22 PDT 2018
Position: +003 48655 / -117 04796
Altitude: 1211ft
Datum: WGS-84
Azimuth Bearing: 01° N19E 1808mils (True)
Zoom: 1X



EB

Date & Time: Tue Aug 14 15:11:32 PDT 2018
Position: +003 48670 / -117 04799
Altitude: 1220ft
Datum: WGS-84
Azimuth Bearing: 11° S61E 2170mils (True)
Zoom: 1X



WB

Date & Time: Tue Aug 14 15:10:41 PDT 2018
Position: +003 48670 / -117 04799
Altitude: 1220ft
Datum: WGS-84
Azimuth Bearing: 11° S61E 2170mils (True)
Zoom: 1X



WB



WB



WB



WB



WB

Comments

Residence approx. 150 meters directly north of WB 79. To the Southwest is open land. Although I was able to see through culvert from WB side, I was unable to locate culvert access on EB side of 79. Sparse chaparral north and south of 79 here. Roadbed is raised only a few feet above grade on WB side, and is essentially at grade on EB side. Access for larger culvert is poor. There was a culvert access observed on EB side approx. 20 meters west of location. However it is also 1 foot in diameter and essentially at grade of 79. No corresponding outlet observed on WB side of 79.

Management recommendations

Wildlife crossing sign. Barrier fencing.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 22470 |
| Survey Date | 08/21/2018 |
| User | Rich Codington |
| Highway name | 79S |
| Location | 50P |
| Drop Point (Lat/Long) | |
| Latitude | 33.478335 |
| Longitude | -117.031919 |
| Speed | 0.400000005960464 m/s |
| Direction | 26.4735679626465 degrees from N |
| Altitude | 413.928714124866 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 10 |
| Height | 1 |
| Width | 1 |
| Length | 45 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Current crossing at grade. Culvert diameter inadequate for wildlife access. Minimal vegetation currently due to post burn adjacent to road. Traffic noise. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | 5 foot barbed wire on south side paralleling road. Intermittent and In disrepair. |



WB



WB



WB



WB



WB



WB



WB



WB



EB



EB



EB



EB



EB



EB

Comments

Eastbound side is post burn. Downslope on eastbound side. 45 degrees and 20 foot drop to dry creek bed below. Small culvert access here. 75 meters to the south is chaparral scrub. Open post burn chaparral to the north of WB 79 here. Good access to small level culvert on WB side of 79 here. 10 foot downslope to culvert on WB side. Location surveyed is approx. 20 meters west of suggested 50P GPS point. Culvert located at GPS point marked in this survey.

Management recommendations

Consider expansion of culvert. It is currently level, and short with good access from EB and WB sides. Height of slope on both sides may allow increased diameter. Barrier and directional fencing. Wildlife crossing sign.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 22471 |
| Survey Date | 08/21/2018 |
| User | Rich Codington |
| Highway name | 79S |
| Location | 51P |
| Drop Point (Lat/Long) | |
| Latitude | 33.468725 |
| Longitude | -117.006991 |
| Speed | 0.0 m/s |
| Direction | 286.989532470703 degrees from N |
| Altitude | 493.978359222412 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 7 |
| Width | 18 |
| Length | 30 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | There is a gravel/sand road which passes under the highway/bridge. Evidence of foot, vehicular, animal traffic here. Furniture and graffiti under bridge, but no indication of ongoing encampment or heavy human use. |
| Constraints | Yes |
| Describe constraint | Traffic under bridge on gravel road. Human presence. Traffic noise. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Tracks in sand on road under and on both sides of bridge. Game Trails. |
| Fencing present? | Yes |

| | |
|----------------------------------|---|
| Describe fencing type and height | Minimal 5 foot chain link west of bridge on E.B. side of 79. This is intended to limit road access to private property. |
| Consider for camera? | Yes |
| Camera suggestions | At approach to bridge on E.B. and WB sides. |



WB



WB



WB



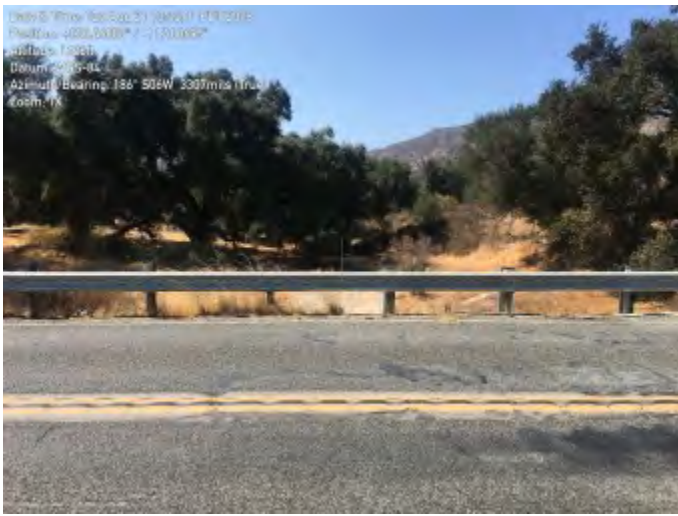
WB



WB



WB



WB



WB



WB



WB



EB



EB

Date & Time: Tue Aug 21 10:44:35 PDT 2018
 Position: +033 46847 -117 00701
 Altitude: 1614ft
 Datum: WGS-84
 Azimuth/Bearing: 035° N05E 1033mils (True)
 Zoom: 1X



EB

Date & Time: Tue Aug 21 10:44:47 PDT 2018
 Position: +033 46870 -117 00641
 Altitude: 1629ft
 Datum: WGS-84
 Azimuth/Bearing: 289° N71W 5138mils (True)
 Zoom: 1X



EB

Date & Time: Tue Aug 21 10:45:04 PDT 2018
 Position: +033 46870 -117 00711
 Altitude: 1618ft
 Datum: WGS-84
 Azimuth/Bearing: 183° S03W 3253mils (True)
 Zoom: 1X



EB

Date & Time: Tue Aug 21 10:45:13 PDT 2018
 Position: +033 46869 -117 00691
 Altitude: 1644ft
 Datum: WGS-84
 Azimuth/Bearing: 083° N08E 14200mils (True)
 Zoom: 1X



EB

Date & Time: Tue Aug 21 10:45:25 PDT 2018
 Position: +033 46847 -117 00470
 Altitude: 1615ft
 Datum: WGS-84
 Azimuth/Bearing: 307° N53W 5458mils (True)
 Zoom: 1X



EB

Date & Time: Tue Aug 21 10:45:36 PDT 2018
 Position: +033 46847 -117 00701
 Altitude: 1617ft
 Datum: WGS-84
 Azimuth/Bearing: 035° N05E 1035mils (True)
 Zoom: 1X



EB



EB

| | |
|----------------------------|---|
| Comments | This bridge undercrossing is in an area of moderate traffic only. Corridor to north and south consists of a minimally travelled gravel/sand road. This is no sign of significant seasonal water flow under bridge. It does not appear to be a drainage area. There is good natural cover lateral to gravel roads approaching underpass. There is private ranch property some distance to the south. Not visible from 79. Multiple dirt roads on north and south accessing main undercrossing. |
| Management recommendations | Directional fencing. Fencing to prevent human presence. Barrier fencing at grade level. Sound insulation. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 22490 |
| Survey Date | 08/21/2018 |
| User | Rich Codington |
| Highway name | 79S |
| Location | 52P |
| Drop Point (Lat/Long) | |
| Latitude | 33.46819 |
| Longitude | -116.996178 |
| Speed | 0.0 m/s |
| Direction | 170.820846557617 degrees from N |
| Altitude | 481.502689361572 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 8 |
| Height | 2 |
| Width | 2 |
| Length | 45 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Narrow diameter of culvert. Current crossing at grade. RV park to the north of WB 79. However, it is not densely occupied. Traffic noise. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails animal tracks. |
| Fencing present? | No |
| Consider for camera? | |



WB



WB



WB



WB



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WB



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WB



WB



WB



EB



EB



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EB

Comments

The smaller diameter culvert opens to a natural drainage area on the WB side. This drainage area leads to another culvert access to the north approx. 20 meters away. It is 3 feet diameter and flows beneath the park access road which is north of and parallel to 79. This road appears to have minimal traffic. The secondary culvert is level, and has visibility from one side to the other. This secondary culvert is 50 feet in length and opens to natural habitat to the north. The small paved access road here is 25 feet wide. Low traffic volume at low speeds. Open scrub habitat extending to north and south of 79 here. Culvert is 5 feet below road surface on E.B. side. RV park and campgrounds lie to the northeast, but would not seem to impact immediate crossing location.

Management recommendations

Increase diameter of existing culvert. Directional fencing. Road barrier fencing. Wildlife crossing sign.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 22495 |
| Survey Date | 08/21/2018 |
| User | Rich Codington |
| Highway name | 79S |
| Location | 53P |
| Drop Point (Lat/Long) | |
| Latitude | 33.4651 |
| Longitude | -116.972479 |
| Speed | 0.0 m/s |
| Direction | 204.675033569336 degrees from N |
| Altitude | 477.090335845947 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 10 |
| Width | 50 feet |
| Length | 25 feet |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | There is difficult access to area under bridge due to barbed wire fencing, although fencing is in moderate disrepair. Minimal evidence of human presence. Minor graffiti and trash. No encampment signs currently. Due to relatively isolated location, I would expect sporadic human presence only. |
| Constraints | Yes |
| Describe constraint | Traffic noise under overpass. Moderate 2 way traffic here including large trucks. Campground to southeast. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails, animal tracks. |

| | |
|----------------------------------|---|
| Fencing present? | Yes |
| Describe fencing type and height | Barbed wire fencing east and west of bridge. Parallel to 79. 5 foot barbed wire on WB side. Moderate disrepair. 7 foot chain link with barbed wire on EB side. This fence also extends from 79 to the south along campground access road between the campground and drainage which flows from the south to to the bridge. |
| Consider for camera? | Yes |
| Camera suggestions | At north and south approaches to bridge. |



WB



WB



WB



WB



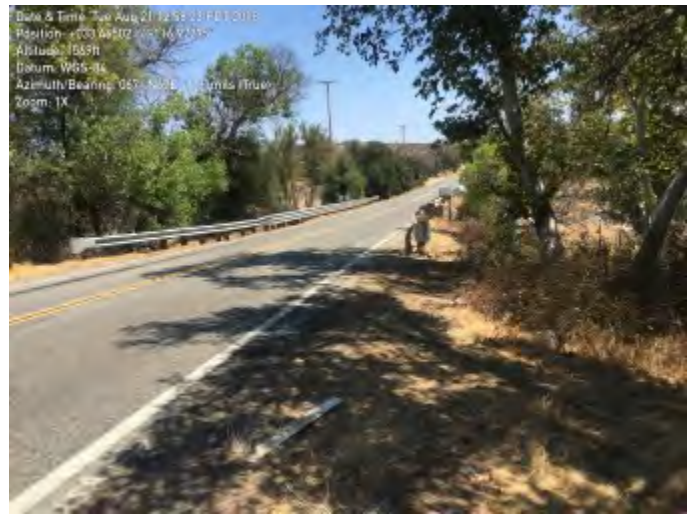
WB



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EB



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Comments

Streambed under bridge here. Natural riparian terrain with good cover and access to crossing to the north and south of 79. Probable minimal human presence under bridge on average. Campground to the east of bridge and south of 79. Minimal activity and human presence adjacent to bridge associated with campground.

Management recommendations

Barrier fencing. Directional fencing. Consider sound insulation.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 22637 |
| Survey Date | 08/22/2018 |
| User | Rich Codington |
| Highway name | 79S |
| Location | 55P |
| Drop Point (Lat/Long) | |
| Latitude | 33.46906 |
| Longitude | -116.944029 |
| Speed | 0.0 m/s |
| Direction | 231.784301757812 degrees from N |
| Altitude | 464.370296274454 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | On E.B. 79, there is a fenced commercial property. Crossing at grade. Moderate high speed traffic. Traffic noise. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple heavily used game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | 3 bar iron fence parallel to 79 on WB side. 4 feet high. 8 foot slatted chain link on E.B. 79 bordering west side of this location. This is an enclosure for business. 3 foot barbed wire parallel to 79 on E.B. 79 in disrepair. |



WB



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Comments

The area surveyed is approx. 50 meters east of suggested GPS heading for 55P. That location is at the commercial property mentioned above. The area surveyed has natural habitat conducive to wildlife approach. However, the crossing point is at grade on busy highway. 79 is at grade of adjacent land on E.B. side, and approx. 3 feet above grade of adjacent land on WB 79. Probably inadequate space for creation of undercrossing.

Management recommendations

Barrier fencing. Wildlife crossing sign.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 22641 |
| Survey Date | 08/22/2018 |
| User | Rich Codington |
| Highway name | 79S |
| Location | 56P |
| Drop Point (Lat/Long) | |
| Latitude | 33.467473 |
| Longitude | -116.933019 |
| Speed | 0.330000013113022 m/s |
| Direction | 289.730255126953 degrees from N |
| Altitude | 465.540312316848 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 40 |
| Width | 200 |
| Length | 40 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Area under overpass is easily accessible. Graffiti and trash present. Likelihood of human presence is relatively low due to this remote location. No evidence of ongoing human habitation under bridge. |
| Constraints | Yes |
| Describe constraint | Agricultural land 1/4 mile to north. There is a 15 foot high metal wall which runs from east to west in riverbed approx. 50 meters north of bridge. There would be wildlife access around this laterally on both sides. Potentially heavy water flow during rain. Traffic noise. Sand/gravel plant to SE. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails. Coyote scat. Animal tracks. Nesting swallows. |

| | |
|----------------------------------|--|
| Fencing present? | Yes |
| Describe fencing type and height | 5 foot 3 rail horse fence parallel to 79 on WB side extending from riverbank east and west. Five foot barbed wire running from edge of bridge at road level north and south. Approx. 50 of four foot barbed wire on south east side of 79. |
| Consider for camera? | Yes |
| Camera suggestions | At approach to underpass North and South. |



WB



WB



WB



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WB



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WB



WB

Comments

Temecula Creek is approx. 50 meters wide here. This wide span overpass is supported by two large concrete abutments separating the underpass into 3 sections. The central section is primary river flow area. East section is gravel road. West section is primarily Rip

rap. There is a sand and gravel business to the southeast of crossing. Unable to take photos at road level from west side of crossing due to poor safety/access.

Management
recommendations

Barrier fencing parallel to Temecula Creek north and south. Sound insulation under bridge.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 22652 |
| Survey Date | 08/22/2018 |
| User | Rich Codington |
| Highway name | 79S |
| Location | 57P |
| Drop Point (Lat/Long) | |
| Latitude | 33.443678 |
| Longitude | -116.875058 |
| Speed | 0.0 m/s |
| Direction | 169.536315917969 degrees from N |
| Altitude | 582.165376663208 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 3 feet |
| Height | 1 |
| Width | 1 |
| Length | 75 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Current crossing at grade. Small diameter culvert. Culvert access at WB 79 is via surface grade level metal grate. Residential property to northwest of location. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails |
| Fencing present? | Yes |
| Describe fencing type and height | Horsefence and intermittent 5 foot barbed wire parallel to WB 79. 5 foot barbed wire approx. 40 meters west of location running perpendicular to the south of EB 79. |



EB



EB



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EB



EB



WB



WB



WB



WB



WB

Comments

Current crossing at grade. Rising slope on WB side may preclude larger culvert here. No culvert access on WB side. Culvert access via surface level drain grate.

SA-PAL survey

| | |
|---|--------------------|
| Project | SA-PAL project |
| ID | 15998 |
| Survey Date | 06/25/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | A39 |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | |
| Landscape and veg structure suggest corridor | |
| Other species observed | |
| Structure type | |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | |
| Constraints | |
| Evidence of other animals? | |
| Fencing present? | No |
| Consider for camera? | |



northbound I-15



northbound I15



northbound I15



northbound



northbound



northbound



notthbound



northbound



northbound

Comments

To re evaluate culvert placement after survey of southbound A39

Management
recommendations

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 31729 |
| Survey Date | 11/23/2018 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | A47 |
| Drop Point (Lat/Long) | |
| Latitude | 33.405336 |
| Longitude | -117.083278 |
| Speed | 0.0 m/s |
| Direction | 242.204437255859 degrees from N |
| Altitude | 260.543056488037 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | West side. Steep slope at shoulder. Blind curve on southbound. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Difficult access on west side. Blind curve. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |

Photos



Comments

This is crossing points A47 & A48. Approx 100m south of eastern corridor that we know lions travel. West side at this spot is dangerous. There is good corridor on west side

approx 25m to south. Will be documenting as A47 A

Management
recommendations

Barrier/exclusionary fencing.

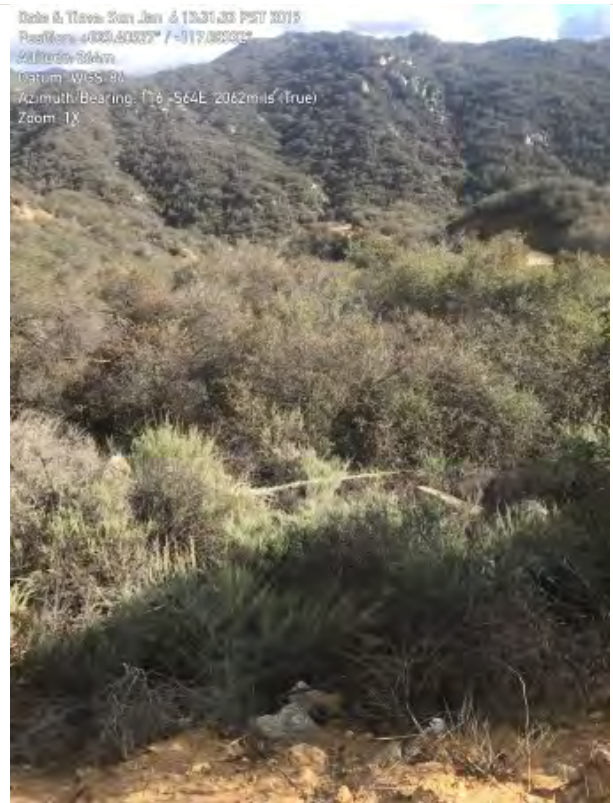
SA-PAL survey

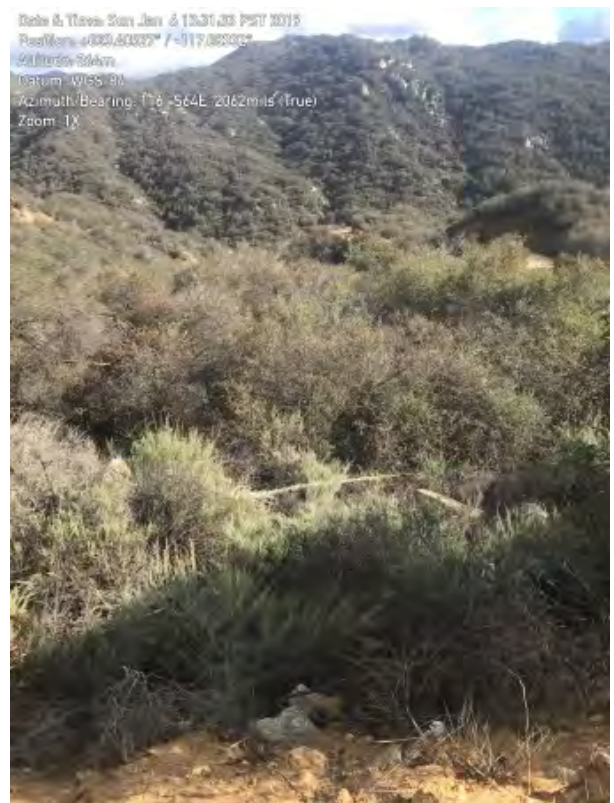
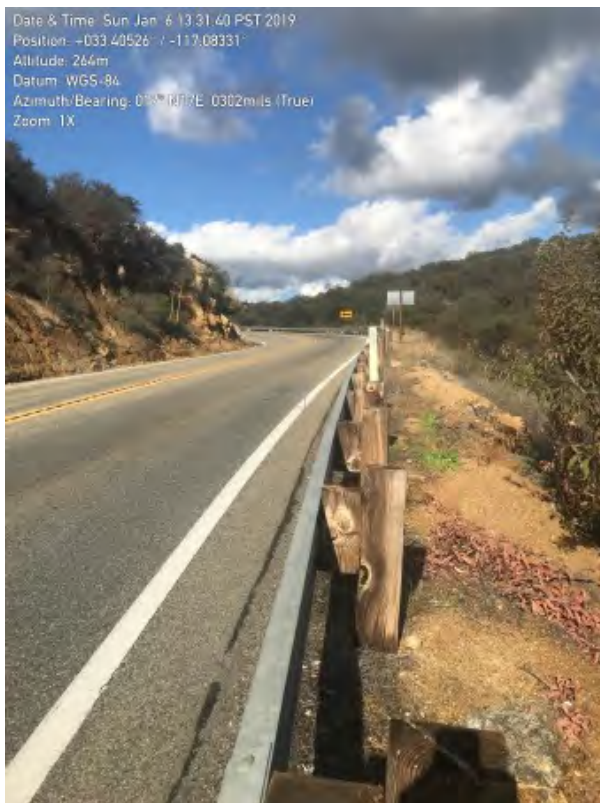
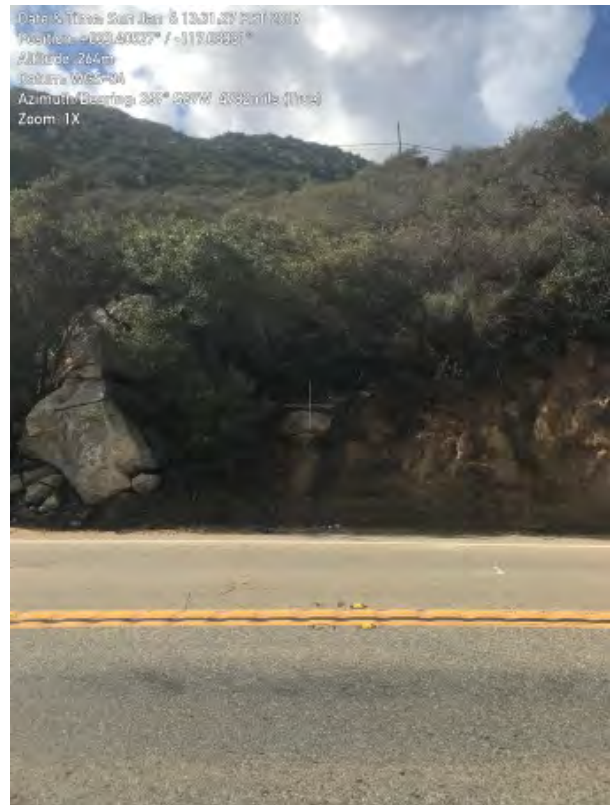
| | |
|---|---|
| Project | SA-PAL project |
| ID | 31728 |
| Survey Date | 11/23/2018 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | A48 |
| Drop Point (Lat/Long) | |
| Latitude | 33.405403 |
| Longitude | -117.083246 |
| Speed | 0.0 m/s |
| Direction | 213.495529174805 degrees from N |
| Altitude | 259.303066253662 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | West side |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | |
| Constraints | |
| Evidence of other animals? | |
| Fencing present? | |
| Consider for camera? | |
| Photos | None |
| Comments | Same spot as A47. Reference information for A47 and A47 A |
| Management | |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 34915 |
| Survey Date | 01/06/2019 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | A49 |
| Drop Point (Lat/Long) | |
| Latitude | 33.405267 |
| Longitude | -117.083321 |
| Speed | 0.0 m/s |
| Direction | 256.046142578125 degrees from N |
| Altitude | 266.132350921631 m |
| Accuracy | m |
| Surveyor | |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 22 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Steep slope abutment in west side |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | |
| Constraints | Yes |
| Describe constraint | Blind curves. Limit access on west side. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |

Photos





Comments

50-100 meters north much better corridors on both sides of the road including culverts at these better corridors

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 31732 |
| Survey Date | 11/23/2018 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | A50 |
| Drop Point (Lat/Long) | |
| Latitude | 33.40096 |
| Longitude | -117.0835 |
| Speed | 0.0 m/s |
| Direction | 301.285217285156 degrees from N |
| Altitude | 231.704738616943 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Sharp/steep slope drop to western edge of shoulder. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | East side good habitat corridor. West side sharp slope. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 2 |
| Height | 1 |
| Width | 1 |
| Length | 40 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Small culvert at drainage point on west side. |
| Evidence of other animals? | No |
| Fencing present? | No |





Comments

Dangerous curve at crossing on west side. Blind spot on west side. Small drainage culvert that slopes down from west to east from 2' below road on west to about 25' below road on east. Sharp slope on west side at shoulder for about 25m to south and a couple hundred meters to north. Better corridor on west side to the south at Mt. Olympus service rd entrance.

Management recommendations

Barrier/exclusion fencing.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 31730 |
| Survey Date | 11/23/2018 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | A50 A |
| Drop Point (Lat/Long) | |
| Latitude | 33.400322 |
| Longitude | -117.08368 |
| Speed | 0.0 m/s |
| Direction | 90.6365051269531 degrees from N |
| Altitude | 231.634731292725 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 6' |
| Height | 3 |
| Width | 3 |
| Length | 60 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | No |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | Yes |
| Camera suggestions | 2 cameras west side. 1 along corridor offset 10m from road. 1 facing culvert entrance. 1 camera east side, along corridor facing culvert. |





Comments

Located approx 25m south of A50. Good corridor on both sides. Spray painting on road at culvert indicates future road work.

Management recommendations

Enlarge culvert and directional fencing. Exclusionary fencing from north to funnel traffic to this culvert.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 31733 |
| Survey Date | 11/23/2018 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | A51 |
| Drop Point (Lat/Long) | |
| Latitude | 33.394742 |
| Longitude | -117.083964 |
| Speed | 0.0 m/s |
| Direction | 187.030395507812 degrees from N |
| Altitude | 189.622444152832 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing road at grade |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 6' chain link fence on east side approx 25m long, just off shoulder. Intermittent 4' 4 strand barbed wire on east side approx 5m off road |
| Consider for camera? | No |





| | |
|----------------------------|---|
| Comments | Good corridors on both sides of road 2' drainage culvert approx 25m south of crossing. West side culvert opening is against rock face, provides drainage, does not provide connectivity to any corridor. |
| Management recommendations | Large culvert and directional fencing. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 30044 |
| Survey Date | 11/05/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A52 |
| Drop Point (Lat/Long) | |
| Latitude | 33.361588 |
| Longitude | -117.04683 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 10 feet |
| Height | 2 |
| Width | 2 |
| Length | 40 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Diameter of culvert. Traffic noise. Current crossing at grade. Culvert blocked on south side. Private property to northwest |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Numerous game Trails |
| Fencing present? | Yes |
| Describe fencing type and height | Westbound: four foot barbed wire 10 meters from road parallel to 76. Eastbound: none Chain link fencing (6 ft) around private property to northwest. |



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound.



eastbound



eastbound Culvert exit not accessible.



eastbound



eastbound



eastbound culvert exit not accessible

Comments

Private property to northwest of location. Narrow culvert. Dirt road on the northeast side exiting 76 and entering private property. Culvert exit blocked from access and view on eastbound side by vegetation.

Management recommendations

Barrier fencing.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 30047 |
| Survey Date | 11/05/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A53 |
| Drop Point (Lat/Long) | |
| Latitude | 33.360732 |
| Longitude | -117.045048 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 feet |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Open landscape to the north and south of hwy 76 at this location. However, there is a nearly vertical 30 foot embankment on the westbound side, and a terraced, but steep embankment on the eastbound side approx. 20 feet high. |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Steep embankments bordering road. No culvert or bridge, therefore crossing is currently at grade. Traffic noise. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire at top of eastbound embankment. Parallel to road. None on westbound side. |

Photos



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbiund



westbound



westbound

Comments

Current crossing at grade and restricted by steep embankments north and south. Animal trying to cross here would be very restricted by what is actually a narrow canyon about 300 yards long through which 76 passes.

Management recommendations

Barrier fencing. There is an excellent crossing location approximately 100 meters east of this location at Marion Canyon. I would recommend trails and directional fencing to direct wildlife away from A53 toward the Marion Canyon location.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 30048 |
| Survey Date | 11/05/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A54 |
| Drop Point (Lat/Long) | |
| Latitude | 33.359834 |
| Longitude | -117.042557 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Crossing at grade. Private property/agricultural development northeast of location. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails |
| Fencing present? | Yes |
| Describe fencing type and height | Three foot barbed wire in disrepair 10 meters from and parallel to road on westbound side. Four foot barbed wire on north east diagonal to road as border for private property. |
| Consider for camera? | No |

Photos



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound

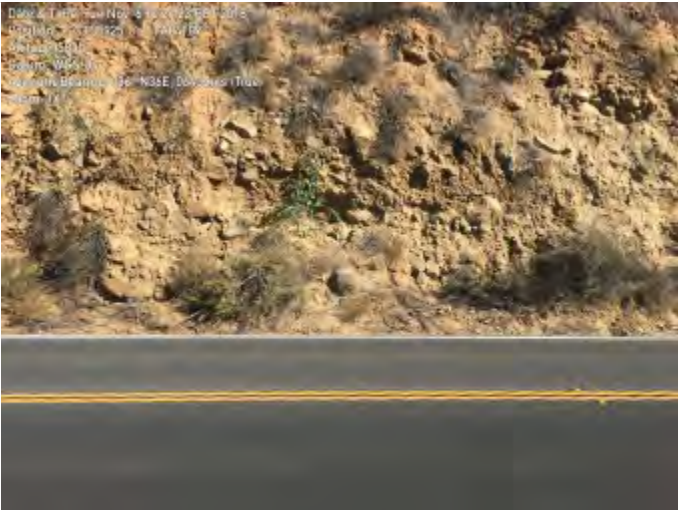
| | |
|----------------------------|---|
| Comments | Excellent crossing location approx. 100 meters north of here at Marion Canyon. |
| Management recommendations | Fencing and trails funneling wildlife to undercrossing 100 meters north at Marion Canyon. Barrier fencing to prevent crossing at A54. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 30159 |
| Survey Date | 11/06/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A55 |
| Drop Point (Lat/Long) | |
| Latitude | 33.359279 |
| Longitude | -117.041036 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | General landscape character to the north is conducive, although it is primarily citrus grove agricultural development. There is a near 90 degree embankment bordering westbound 76 here which is 40 feet high. Landscape south of here is a large open plowed field. Natural landscape begins approx. 200 meters south of 76. |
| Landscape and veg structure suggest corridor | No |
| Describe limitation of landscape and veg and which side of road | Open plowed field on eastbound side of road. Beyond westbound embankment, agricultural development to the north. Citrus groves. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Prohibitive high embankment as noted above. Wildlife cannot cross at this location due to that constraint unless the animal travelled east or west from adjacent site first. Traffic noise is significant here. No shoulders on roadsides, and this site is in the middle |

of a climb up the hill of eastbound 76. Crossing currently at grade.
Agricultural development to the north.

| | |
|----------------------------------|---|
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | Barbed wire at top of westbound embankment. |
| Consider for camera? | No |



eastbound



A55 eastbound



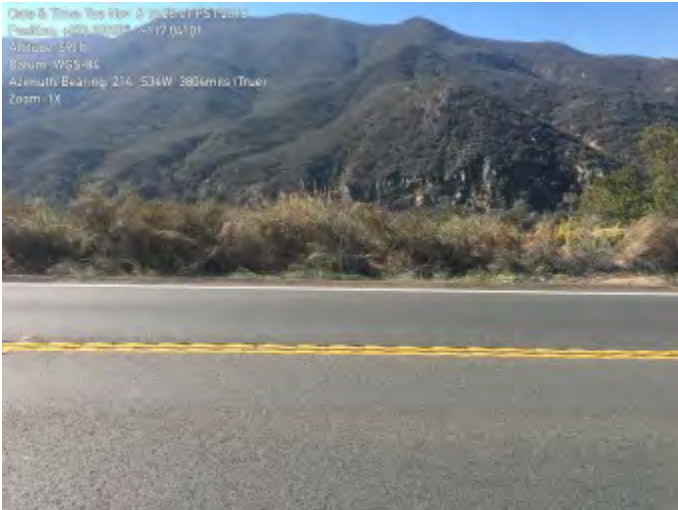
eastbound



eastbound



westbound



westbound



westbound



westbound

Comments

This location is not conducive to crossing due to the 90 degree embankment on westbound side.

Management recommendations

Barrier fencing here. Trails and directional fencing to funnel wildlife to adjacent crossing locations.

SA-PAL survey

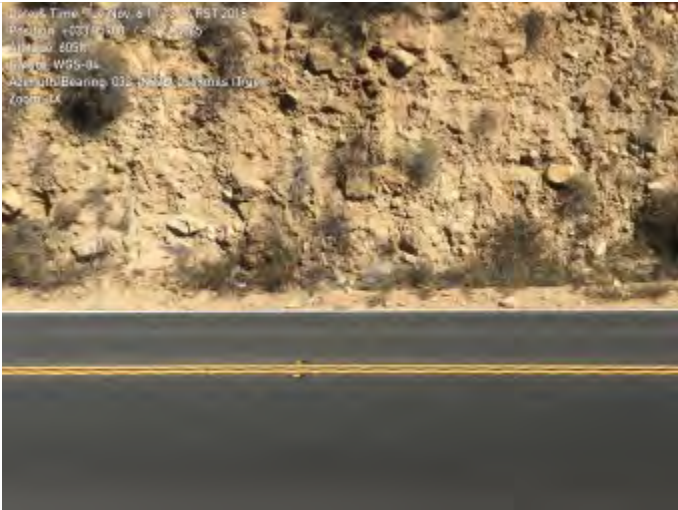
| | |
|---|---|
| Project | SA-PAL project |
| ID | 30164 |
| Survey Date | 11/06/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A56 |
| Drop Point (Lat/Long) | |
| Latitude | 33.359057 |
| Longitude | -117.040518 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | This location is directly adjacent to site A55. Landscape character and constraints are equivalent. Agricultural development citrus groves to the north. Near vertical 40 foot high embankment bordering westbound 76. Open plowed field to the south of 76. Natural landscape conducive to wildlife presence lies 200 meters to the south of 76 beyond the plowed field. |
| Landscape and veg structure suggest corridor | No |
| Describe limitation of landscape and veg and which side of road | North side agriculture. Southside open plowed field. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | 40 foot 80 degree embankment at edge of highway on westbound side of 76. Traffic noise. Crossing at grade. Due to the westbound embankment, Crossing here would |

require animal to travel some distance on shoulder of highway to an adjacent area prior to crossing.

| | |
|----------------------------------|---|
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | Three foot barbed wire at top of westbound side embankment. |
| Consider for camera? | No |



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound

| | |
|----------------------------|---|
| Comments | Poor crossing location due to prohibitive embankment and ag land to the north. |
| Management recommendations | Barrier fencing. Wildlife trails and fencing to facilitate travel to adjacent areas more conducive to crossing. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 28280 |
| Survey Date | 11/06/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A57 |
| Drop Point (Lat/Long) | |
| Latitude | 33.358635 |
| Longitude | -117.040127 |
| Speed | 0.0 m/s |
| Direction | 251.531463623047 degrees from N |
| Altitude | 180.926460266113 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 25 feet |
| Height | 3 |
| Width | 3 |
| Length | 70 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Relatively narrow culvert. South side exit of culvert is about 10 feet above the surface. Empties onto nearly vertical array of boulders. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails |
| Fencing present? | Yes |
| Describe fencing type and height | North side 3 foot barbed wire in disrepair 20 feet from road and parallel to road. |



eastbound



eastbound Note elevated culvert exit



eastbound



eastbound



eastbound



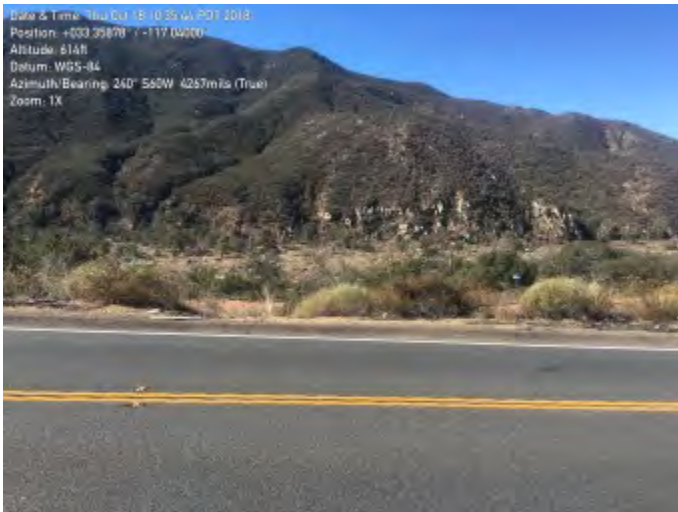
eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound

| | |
|----------------------------|---|
| Comments | Current crossing at grade for larger animals. Good location for increasing diameter of existing culvert. North and south sides amenable to wildlife corridor. |
| Management recommendations | Wildlife crossing signs. Rumble strip. Increase diameter of existing culvert. Barrier fencing. Directional fencing. Culvert would need to be placed lower on eastbound side, or ramp added at this culvert exit due to its height off the ground. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 28282 |
| Survey Date | 10/18/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A58 |
| Drop Point (Lat/Long) | |
| Latitude | 33.34465 |
| Longitude | -117.0225 |
| Speed | 0.0 m/s |
| Direction | 7.43382024765015 degrees from N |
| Altitude | 211.63892364502 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 25 |
| Width | 90 |
| Length | 40 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Minor human presence. Wilderness Gardens Park to southwest. Would not expect this to be a constraint. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails. Coyote scat. Tracks in sand. |
| Fencing present? | Yes |
| Describe fencing type and height | Small section of 4 foot barbed wire east of streambed on south side parallel to road. |
| Consider for camera? | Yes |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound

Date & Time: Thu Oct 18 11:49:19 PDT 2018
Position: +003 34510 / -117 02326
Altitude: 709ft
Datum: WGS-84
Azimuth/Bearing: 022° N22E 0391mils (True)
Zoom: 1X



eastbound

Date & Time: Thu Oct 18 11:52:07 PDT 2018
Position: +003 34595 / -117 02331
Altitude: 722ft
Datum: WGS-84
Azimuth/Bearing: 140° S40E 243mils (True)
Zoom: 1X



eastbound

Date & Time: Thu Oct 18 11:40:57 PDT 2018
Position: +003 34542 / -117 02322
Altitude: 705ft
Datum: WGS-84
Azimuth/Bearing: 040° N40E 0711mils (True)
Zoom: 1X



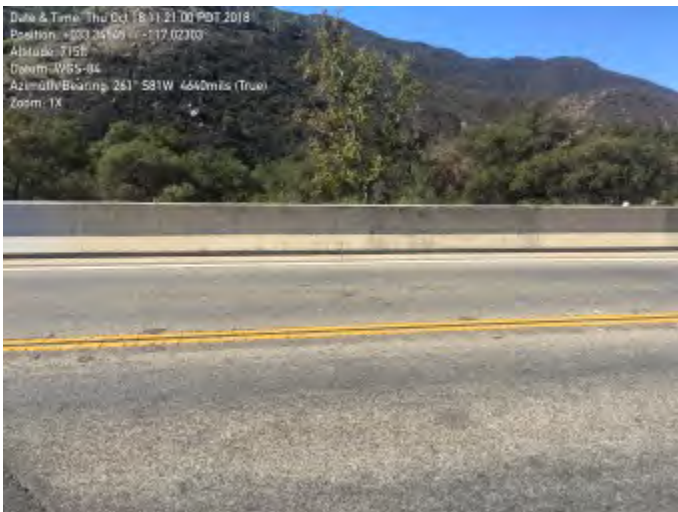
eastbound

Date & Time: Thu Oct 18 11:20:16 PDT 2018
Position: +003 34523 / -117 02284
Altitude: 709ft
Datum: WGS-84
Azimuth/Bearing: 320° N40W 5689mils (True)
Zoom: 1X



westbound

Date & Time: Thu Oct 18 11:21:00 PDT 2018
Position: +003 34509 / -117 02303
Altitude: 715ft
Datum: WGS-84
Azimuth/Bearing: 261° S81W 4440mils (True)
Zoom: 1X



westbound

Date & Time: Thu Oct 18 11:21:45 PDT 2018
Position: +003 34550 / -117 02302
Altitude: 711ft
Datum: WGS-84
Azimuth/Bearing: 266° S86W 4725mils (True)
Zoom: 1X



westbound



westbound



westbound



westbound



westbound



camera view SANDAG 11



camera SANDAG 11



camera SANDAG 11

Comments

Dry creek bed runs underneath road overpass. Easy wildlife access from both north and south. (Agua Tibia Creek). Undeveloped habitat to north and south. Moderate graffiti under bridge but no evidence of significant or ongoing human presence. Two large supporting abutments separate crossing into one main central area and two small lateral passages.

This location is Agua Tibia Bridge. Immediately to the east of this location are sites: A59, A60, A61, and P78. These sites are complementary to site A58, and were evaluated as one primary crossing location, #A58, and the supplemental sites, #A59, A60, A61 and P78. Camera SANDAG 11 placed here on 7-17-19. Placed on westbound side of bridge approx. 30 meters north of underpass on east side of streambed facing across dry Agua Tibia Creek bed.

Management recommendations

Sound dampening to reduce traffic noise. Barrier fencing. Directional fencing.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 31258 |
| Survey Date | 11/19/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A59 |
| Drop Point (Lat/Long) | |
| Latitude | 33.345436 |
| Longitude | -117.023 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. At this specific location, crossing at grade. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | 2 foot guard rail at edge of road eastbound and westbound. Intermittent 4 foot barbed wire parallel to road approx 10 meters south of eastbound 76. Borders Agua Tibia Creek. |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound

Comments

This site is immediately south of Agua Tibia Creek Bridge, which is site # A 58. Although this is a separate site number, I would consider A59 as the same site as Agua Tibia Creek Bridge. There is no separate culvert or bridge at this location.

Management recommendations

Barrier fencing. Directional fencing to funnel wildlife to crossing beneath roadway at Agua Tibia Creek Bridge.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 31314 |
| Survey Date | 11/19/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A60 |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing at grade. Traffic noise. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire intermittent and in disrepair south of eastbound lane approx. 10 meters. |
| Consider for camera? | No |
| Photos | None |

| | |
|----------------------------|---|
| Comments | Please reference sites A59, A61, and P78. Sites A59, 60,61, P78 are adjacent to each other and have no separate or additional culverts or crossing structures. The primary crossing area evaluated in this area is A58 at the Agua Tibia Bridge. No photos taken at A60. See photos from A59, A61, P78 and A58. |
| Management recommendations | Barrier fencing. Directional fencing and trails to funnel animals toward Agua Tibia Bridge at location #A58. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 31261 |
| Survey Date | 11/19/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A61 |
| Drop Point (Lat/Long) | |
| Latitude | 33.344969 |
| Longitude | -117.022844 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Crossing at grade. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot intermittent barbed wire parallel to and 10 meters south of eastbound 76 |
| Consider for camera? | |



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound

Comments

A61 is essentially the same site as A59,60,and P78. See comments for site A59.

Management recommendations

Barrier fencing to prevent crossing here. Directional fencing and trails to funnel animals to site # A58, which is Agua Tibia Creek Bridge.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 31367 |
| Survey Date | 11/20/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A62 |
| Drop Point (Lat/Long) | |
| Latitude | 33.342892 |
| Longitude | -117.020801 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Private residence directly to the north. Structures, vehicles. Private driveway. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Private residence/structures, fencing, driveway directly to north. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | Yes |
| Describe human presence potential | Private residence on north side. |
| Constraints | Yes |
| Describe constraint | Crossing at grade. Traffic noise. Private residence. Crossing on blind curve. |
| Evidence of other animals? | Yes |

| | |
|--|--|
| Describe evidence of other animals present | Game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | 5 foot barbed wire on north side. This parallels road, and is associated with private residence. |
| Consider for camera? | No |



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound

| | |
|----------------------------|--|
| Comments | This location is approximately 50 meters east of Frey Creek Bridge. That location completed as a separate survey. In this general area, the Frey Creek Bridge is the most acceptable crossing location. There is no separate culvert or structure associated with A62 or A63. There is a private residence on the north side of the road here. |
| Management recommendations | Barrier fencing. Directional fencing and trails to funnel animals toward Frey Creek Bridge undercrossing. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 31368 |
| Survey Date | 11/20/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A63 |
| Drop Point (Lat/Long) | |
| Latitude | 33.34278 |
| Longitude | -117.02059 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | See survey # A62. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | See survey #62 |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | Yes |
| Describe human presence potential | Private residence on north side of SR 76 here. |
| Constraints | Yes |
| Describe constraint | See survey for A62 |
| Evidence of other animals? | No |

| | |
|----------------------------------|--|
| Fencing present? | Yes |
| Describe fencing type and height | See survey for A62. |
| Consider for camera? | No |
| Photos | None |
| Comments | Location A62 and A63 are adjacent to each other and similar in character. Photos for A63 are the same as photos for A62. See comments in A62 survey. See photos for location A62. |
| Management recommendations | See recommendations for A62. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 30197 |
| Survey Date | 11/06/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A64 |
| Drop Point (Lat/Long) | |
| Latitude | 33.342425 |
| Longitude | -117.019944 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Agricultural property to north. Open space with multiple dirt roads to south. Pauma Ridge Rd. lies 100 meters to the south. |
| Landscape and veg structure suggest corridor | No |
| Describe limitation of landscape and veg and which side of road | North side agricultural. South side trash, dirt roads, cleared areas, telephone poles. Pauma Ridge Rd. South side agriculture. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Steep embankment about 20 meters high on westbound side. Rises directly from 76 on westbound side. There is a steep drop off on south side of 76 of approx. 10 meters. Traffic noise. Crossing at grade. |
| Evidence of other animals? | No |

| | |
|----------------------------------|---|
| Fencing present? | Yes |
| Describe fencing type and height | 2 foot guard rail at eastbound roadside. Four foot barbed wire at top of embankment on westbound side parallel to 76. Three foot barbed wire 40 feet from eastbound 76 which runs parallel to road. |
| Consider for camera? | No |

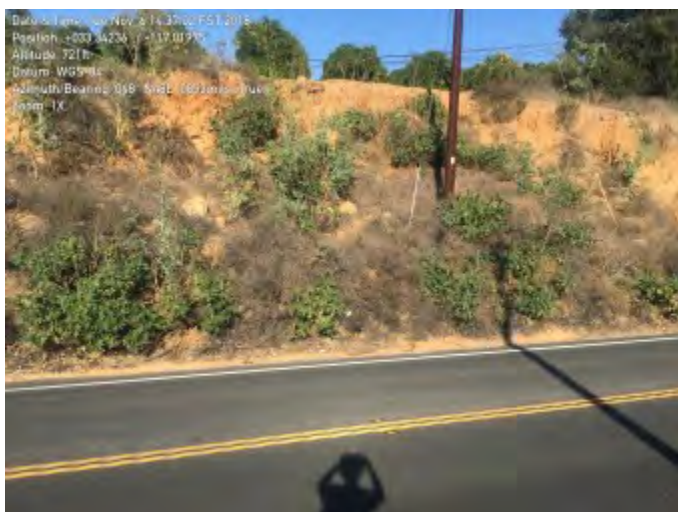
Photos



eastbound



eastbound



eastbound



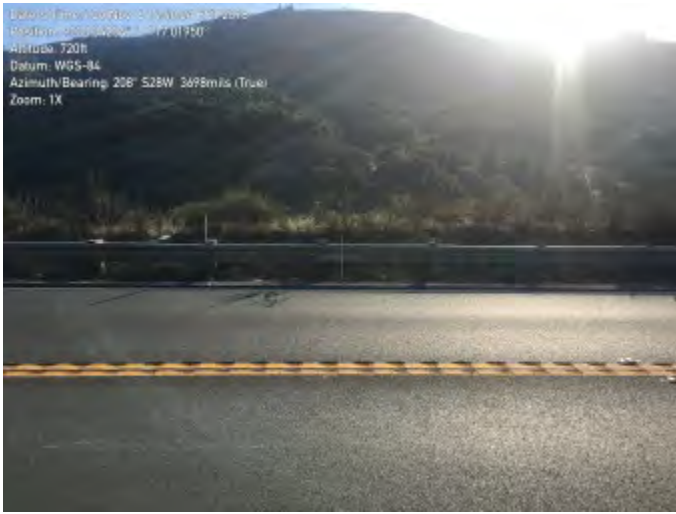
eastbound



eastbound



westbound



westbound



westbound

Comments

This is an inadequate crossing area with poor road access on the westbound side due to embankment and on eastbound side due to steep downslope embankment. This location is at the apex of a blind turn from both directions. There is some traffic on small residential road approx. 100 to the south. (Pauma Ridge Rd.) No access for culvert or wildlife bridge here. 76 is on the side of a hill at this location.

Management recommendations

Barrier fencing. Trails and directional fencing to funnel wildlife toward Frey Creek.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 31879 |
| Survey Date | 11/27/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A65 |
| Drop Point (Lat/Long) | |
| Latitude | 33.316105 |
| Longitude | -116.990787 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | North and south of 76 bordered by large commercial citrus groves. Current crossing at grade. Traffic noise. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |

Photos



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound

| | |
|----------------------------|--|
| Comments | Heavy traffic on 76 here. No culvert or bridge present. Therefore, no current alternative to crossing at grade. There are large citrus groves EB and WB sides, but no significant human presence. No significant residential or commercial structures in the immediate vicinity. |
| Management recommendations | Barrier fencing to prevent crossing here. Wildlife crossing signage. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 31930 |
| Survey Date | 11/27/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A66 |
| Drop Point (Lat/Long) | |
| Latitude | 33.30179 |
| Longitude | -116.921578 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 8 feet |
| Height | 3 |
| Width | 3 |
| Length | 60 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Diameter of culverts, at 3 feet, limits travel to smaller wildlife. Traffic noise. Citrus groves to north pose minimal constraint. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Coyote scat |
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire parallel to road approx. 30 feet south of eastbound lane. Barbed wire 25 feet north of and parallel to westbound 76 in major disrepair. |



eastbound; westernmost culvert exit



eastbound; westernmost culvert exit



eastbound; easternmost culvert exit



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound two culvert entrances



westbound two culvert entrances



westbound two culvert entrances



westbound



westbound



westbound



westbound



westbound



westbound



westbound

Comments

There are 2 parallel culverts traveling from northeast to southwest. They both drop from north to south at a fairly shallow angle. They are patent on the south end, but about 30% blocked on north end by natural debris. The easternmost culvert is buried less deeply, averaging about 5 feet beneath road. The westernmost culvert, separated from the other by 4 meters, lies, on average, approx. 10 feet below road. There is a natural streambed/ riparian area on both sides of road here. Connection made under road by 2 culverts as noted. There would appear to be adequate space under the road and on north and south to increase culvert diameter. Drainage runs diagonally under road from northeast to southwest.

Notes from 7-10-19 reassessment. I would not change anything from notes or comments in original evaluation. This is a good crossing location with potential for improving current crossing structure to better facilitate passage of larger wildlife.

Management recommendations

Barrier fencing. Directional fencing and trails leading wildlife to cross in this area if culvert enlarged. Place one larger diameter culvert beneath road to replace 2 of lesser diameter.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 34593 |
| Survey Date | 12/28/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A67 |
| Drop Point (Lat/Long) | |
| Latitude | 33.291041 |
| Longitude | -116.894036 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Rectangular culvert |
| Culvert distance below road | 1 meter |
| Height | 6 |
| Width | 8 |
| Length | 45 |
| Structure floor material | Concrete |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Barbed wire over entrance to culvert on EB side. Traffic noise. Residential property to the southeast. Relatively minor constraints. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 5 foot barbed wire in good repair on EB and WB side surrounding entrance and exit to culvert. Barbed wire over entrance to culvert on WB side. 5 ft. Barbed wire parallel to road on both WB and EB sides. |
| Consider for camera? | Yes |



eastbound



eastbound



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eastbound



eastbound



eastbound



westbound



westbound



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westbound



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westbound



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westbound



westbound



Camera C 22 View from camera on eastbound facing culvert.



Camera C 22 Camera placed on eastbound side on post southwest of culvert exit 5 meters from culvert.

Comments

Large box culvert. Other than a minor barbed wire constraint on WB side at culvert entrance, this is an easily accessible path beneath 76 in this area. Natural riparian/ bouldered streambed to north and south. Minimal evidence of human presence in this large culvert. No signs of ongoing human encampment. Traffic noise is significant. Culvert roof is close to road surface.

Management recommendations

Remove barbed wire netting at WB culvert entrance. Barrier fencing. Directional fencing and trails to lead wildlife to this crossing location. Sound dampening.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 34648 |
| Survey Date | 01/02/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A68 |
| Drop Point (Lat/Long) | |
| Latitude | 33.291057 |
| Longitude | -116.893708 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | |
| Landscape and veg structure suggest corridor | |
| Other species observed | |
| Structure type | |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | |
| Constraints | |
| Evidence of other animals? | |
| Fencing present? | |
| Consider for camera? | |
| Photos | None |
| Comments | This site is in close proximity to site A67. It has no additional attributes to consider it a better or alternative crossing area. Please see the data for site A 67. |
| Management recommendations | Barrier fencing. Directional fencing and wildlife trails to direct animals toward A67. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 34671 |
| Survey Date | 01/02/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A69 |
| Drop Point (Lat/Long) | |
| Latitude | 33.285747 |
| Longitude | -116.869431 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Sparse development on north side of 76 |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 20 feet |
| Height | 2 |
| Width | 2 |
| Length | 50 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Culvert narrow diameter. Not suitable for larger wildlife travel. Drains out into gully on EB side at a very steep angle 20 feet from road level. Steep inclines WB AND WB sides of 76. Retaining wall in gully westbound side. Traffic noise. Church Road to north with private residences. |
| Evidence of other animals? | No |
| Fencing present? | Yes |

| | |
|----------------------------------|---|
| Describe fencing type and height | Four foot Intermittent barbed wire parallel to and 10 meters from 76 Eastbound. Same fencing on westbound side. |
| Consider for camera? | No |



westbound



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eastbound

Comments

Eastbound side is steep 30 foot drop off into gulley. Drainpipe empties about halfway down the steep slope. Eight foot retaining wall in gulley 50 meters north of westbound 76. There is another 2 lane paved road with minimal traffic approx. 75 meters north of 76.

Minor residential development to northeast and northwest....two small residences. There is another location adjacent to this site that has a larger diameter culvert and may be more conducive to travel. That location bears further evaluation possibly as a new and separate location.

Management recommendations

Increase diameter of culvert. Barrier fencing. Directional fencing. Game Trails to culvert openings. Level grade on eastbound side at culvert exit. Evaluate adjacent site.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 34669 |
| Survey Date | 01/02/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A70 |
| Drop Point (Lat/Long) | |
| Latitude | 33.285713 |
| Longitude | -116.869582 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | |
| Landscape and veg structure suggest corridor | |
| Other species observed | |
| Structure type | |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | |
| Constraints | |
| Evidence of other animals? | |
| Fencing present? | |
| Consider for camera? | |
| Photos | None |
| Comments | This site is directly adjacent to A69, and should be considered as the same location. See all data and photos from A69 in reference to this location, A70. |
| Management recommendations | |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 34670 |
| Survey Date | 01/02/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A71 |
| Drop Point (Lat/Long) | |
| Latitude | 33.284891 |
| Longitude | -116.868786 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 30 |
| Height | 4 |
| Width | 4 |
| Length | 60 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Culvert empties on south side of 76 into steep gulley. Traffic noise. Private residential properties to north and south. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire, 10 meters north of westbound 76. Parallel to road. |
| Consider for camera? | No |



eastbound



eastbound



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westbound

Comments

Barbed wire fenced property with two large barking dogs prevented adequate photos of culvert entrance area to the north of westbound 76. Size and shallow angle of culvert descent from north to south are amenable to wildlife transit.

| | |
|----------------------------|---|
| Management recommendations | Increase diameter of culvert. Noise dampening. Barrier fencing. Directional fencing. Barrier fencing between north culvert entrance and private property/ dogs on westbound side. |
|----------------------------|---|

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 34604 |
| Survey Date | 12/28/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A72 |
| Drop Point (Lat/Long) | |
| Latitude | 33.287803 |
| Longitude | -116.874689 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 12 |
| Width | 25 |
| Length | 40 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Human presence. Traffic noise. Heavy entanglement of brush and vegetation on north and south of bridge in drainage. Clear underneath bridge. There is minor commercial and residential property development to NW and NE of bridge. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to road on westbound side. Intermittent. |
| Consider for camera? | Yes |
| Camera suggestions | Both sides underneath bridge. |



westbound



westbound



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eastbound



Camera BHD 96 View from camera looking south under bridge.



Camera BHD 96 Placed on westbound side of bridge. On west side of stream approx. 5 meters from bridge underpass opening facing bridge.



eastbound

Comments

This is La Jolla Amago Creek Bridge. Currently undergoing construction at road level. Fresh graffiti on walls under overpass indicating periodic human presence. No indication of ongoing human presence or encampment. Construction at road level would appear to

be of temporary duration. Construction completed as of 7-15-19. Camera here removed. (BHD 96) It was destroyed by vandalism.

Management
recommendations

Barrier fencing. Directional fencing. Wildlife crossing signs. Wildlife trails leading to undercrossing. Sound dampening. Barrier to human presence. Clear path through vegetation leading to underpass.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 34668 |
| Survey Date | 01/02/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A73 |
| Drop Point (Lat/Long) | |
| Latitude | 33.276507 |
| Longitude | -116.864621 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | 30 meter, 70 degree rocky face meets edge of 76 on westbound side. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Westbound embankment as noted. Low density residential development one half mile south of 76. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | North side embankment. Crossing at grade. Traffic noise. |
| Evidence of other animals? | No |
| Fencing present? | Yes |

| | |
|----------------------------------|---|
| Describe fencing type and height | Four foot barbed wire parallel to road eastbound and westbound sides. |
| Consider for camera? | No |

Photos



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound

Comments

This area not currently amenable to crossing. Slightly to the east and slightly to the west of this location, the approaches to the edge of the road are more level and thus more approachable for wildlife. However, crossing at either location remains at grade.

Management recommendations

Rumble strip. Wildlife crossing signs. Barrier fencing.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 34672 |
| Survey Date | 01/02/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A74 |
| Drop Point (Lat/Long) | |
| Latitude | 33.276917 |
| Longitude | -116.852956 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 15 feet |
| Height | 3 |
| Width | 3 |
| Length | 70 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Current crossing at grade other than long culvert. Traffic noise. commercial and housing development on south side of 76. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire parallel to westbound 76 approx 10 meters north of shoulder. |
| Consider for camera? | No |



eastbound



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eastbound

Comments

This location is approximately 20 meters east of GPS point for A74. There is a natural drainage approaching from the northwest, dropping to the southeast on the south side. Although crossing here is at grade, the approach from north and south due to character

of landscape, is amenable to wildlife travel.
Notes 7-10-19: reassessment of this area reveals a culvert further to the east at NavCam GPS coordinates. Between the location previously surveyed and for approximately 75 meters to the east, the landscape is amenable to crossing. Crossing the road is at grade. This is a good location for construction of a larger undercrossing type wildlife travel structure. The current culvert photographed on 7-10-19 is buried amongst vegetation on the westbound side, and is visible from road, but not accessible to photograph on eastbound side. It lies on heavily vegetated steep slope with culvert opening elevated above surface.

Management
recommendations

Barrier fencing. Rumble strip. Wildlife crossing signs. Construction of a culvert in this location would seem possible. Consider expanding current culvert.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 51621 |
| Survey Date | 07/10/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A76 |
| Drop Point (Lat/Long) | |
| Latitude | 33.272024 |
| Longitude | -116.828399 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | No crossing structure. Crossing at grade. Traffic noise. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound

Comments

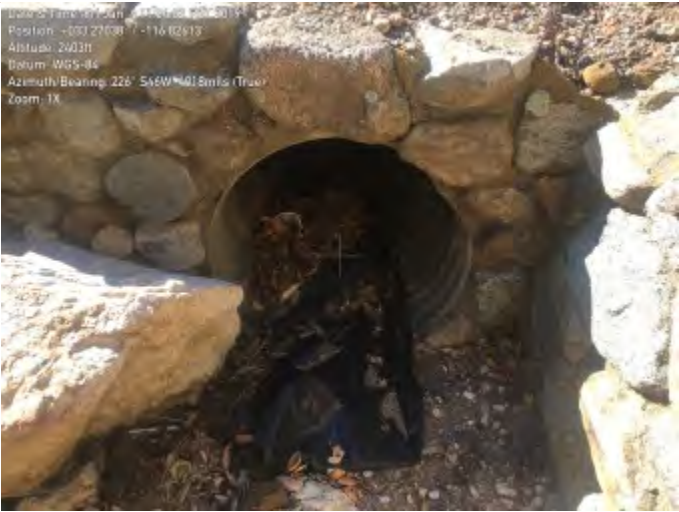
Corridor adequate for wildlife transit. However steep terrain to north and south. No crossing structure evident here.

Management recommendations

Rumble strip. Wildlife crossing signs. Barrier fencing.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 34831 |
| Survey Date | 01/04/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A77 |
| Drop Point (Lat/Long) | |
| Latitude | 33.270357 |
| Longitude | -116.826143 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 1 meter |
| Height | 2 |
| Width | 2 |
| Length | 40 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Small culvert diameter is unsuitable for larger wildlife. Crossing otherwise at grade. Steep 20 foot embankment on westbound side has gully which drains into this small culvert just below road level. Traffic noise. Culvert mostly blocked by leaves and soil at eastbound exit side. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | Intermittent 3 foot barbed wire in disrepair on eastbound side parallel to road. Approx. 10 meters from road. |



westbound



westbound



westbound



westbound



westbound



westbound



westbound



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eastbound



eastbound



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eastbound



eastbound



eastbound



eastbound



eastbound



eastbound

Comments

Small gulley leads up from culvert on westbound side to natural drainage coming down side of mountain. The steep embankment extends 100+ meters east and west from this location, making this crossing location relatively narrow. Good crossing location, but

culvert diameter not amenable to use by larger wildlife.

Management
recommendations

Increase diameter of culvert. Due to embankment encroaching on road on westbound side and shallow position of culvert, there is minimal clearance for increasing diameter and improving access to this culvert from the north. Barrier fencing. Wildlife crossing signs. Rumble strip.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 34833 |
| Survey Date | 01/04/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A78 |
| Drop Point (Lat/Long) | |
| Latitude | 33.266302 |
| Longitude | -116.815741 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 2 feet |
| Height | 2 |
| Width | 2 |
| Length | 60 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Steep twenty foot high embankment on westbound side drops down to culvert entrance which is just below road grade level. Traffic noise. Narrow culvert diameter. Culvert drops off on south side of road at approx. 30 degree angle, terminating 30 from edge of road. Eastbound culvert exit approx. 80% blocked by debris. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails. |
| Fencing present? | Yes |

| | |
|----------------------------------|---|
| Describe fencing type and height | Three foot barbed wire 15 meters from EB 76 parallel to road. |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound



westbound



westbound



eastbound blocked culvert exit



eastbound steep angle of blocked culvert



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound

Comments

Difficult access to currently impassable culvert. Relatively low traffic volume. High traffic noise on westbound side because culvert entrance is at road level and approx. 10 feet from edge of road. The site surveyed is approx. 40 meters east of Waypoint given for A78.

There is a small culvert in this location, but no access for crossing at actual waypoint. There is another potential crossing location approx. 40 meters west of Waypoint given for A78 which may be considered for evaluation also.

Management recommendations

Barrier fencing. Rumble strip. Wildlife crossing sign. Grade differential from north to south does not appear readily amenable to culvert improvement.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 34836 |
| Survey Date | 01/04/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A79 |
| Drop Point (Lat/Long) | |
| Latitude | 33.265059 |
| Longitude | -116.813624 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | 50 foot embankment encroaching on westbound edge of road which is approx. 70 degrees. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Steep embankment to north. Beyond embankment to north: open space |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing here at grade. No direct approach to the north. Traffic noise. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |



Date & Time: Fri Jan 4 13:04:57 PST 2019
Position: +003 26525.7 -116 01356
Altitude: 2475ft
Datum: WGS-84
Azimuth/Bearing: 019° N19E 0338mils (True)
Zoom: 1X

eastbound



Date & Time: Fri Jan 4 13:05:02 PST 2019
Position: +003 26525.7 -116 01356
Altitude: 2475ft
Datum: WGS-84
Azimuth/Bearing: 019° N19E 0338mils (True)
Zoom: 1X

eastbound



Date & Time: Fri Jan 4 13:04:57 PST 2019
Position: +003 26525.7 -116 01356
Altitude: 2475ft
Datum: WGS-84
Azimuth/Bearing: 210° S32W 3773mils (True)
Zoom: 1X

eastbound



Date & Time: Fri Jan 4 13:05:46 PST 2019
Position: +003 26513.7 -116 01336
Altitude: 2463ft
Datum: WGS-84
Azimuth/Bearing: 321° N39W 3707mils (True)
Zoom: 1X

eastbound



Date & Time: Fri Jan 4 13:05:02 PST 2019
Position: +003 26525.7 -116 01356
Altitude: 2475ft
Datum: WGS-84
Azimuth/Bearing: 019° N19E 0338mils (True)
Zoom: 1X

eastbound



Date & Time: Fri Jan 4 13:05:12 PST 2019
Position: +003 26263.7 -116 00157
Altitude: 2475ft
Datum: WGS-84
Azimuth/Bearing: 210° S32W 3802mils (True)
Zoom: 1X

westbound



westbound



westbound



westbound

Comments

Landscape to south amenable to wildlife transit. Landscape beyond the large embankment to the north is amenable to wildlife transit.

Management recommendations

Barrier fencing. Rumble strip. Wildlife crossing sign.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 34842 |
| Survey Date | 01/04/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A80 |
| Drop Point (Lat/Long) | |
| Latitude | 33.262711 |
| Longitude | -116.808646 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Buildings north of westbound 76. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Private property to north with multiple buildings |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 2 feet on westbound side. 6 feet on eastbound side. |
| Height | 2 |
| Width | 2 |
| Length | 35 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Culvert small diameter. Culvert currently blocked 100% on westbound side and 60% on eastbound side. Blocked with soil/leaves/ debris. Multiple residential buildings about 20 meters to north of westbound 76. 10 meter high steep embankment |

on north side between edge of 76 and residential structures.

| | |
|----------------------------|----|
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |



eastbound



eastbound



eastbound blocked culvert



eastbound



eastbound



eastbound



westbound blocked culvert



westbound



westbound



westbound



westbound



westbound

Comments

Good natural corridor to the south with open drainage leading directly to culvert exit. Culvert would Not currently allow passage of wildlife due to blockage. There are multiple buildings in close proximity to 76 on westbound side, preventing this from being a good

corridor crossing location.

Notes added on 7-10: approx. 50 meters east of location evaluated is a better crossing location. Although there is no structure here, there is an open corridor with amenable landscape to north and south, with no buildings as previously noted. Crossing remains at grade.

Management
recommendations

Barrier fencing. Rumble strip. Wildlife crossing signs.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 34845 |
| Survey Date | 01/04/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A81 |
| Drop Point (Lat/Long) | |
| Latitude | 33.262551 |
| Longitude | -116.807641 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 1 foot westbound to 4 feet eastbound side. |
| Height | 2 |
| Width | 2 |
| Length | 40 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Culvert entrance is near grade level and completely blocked on westbound side. Blocked 80 % on eastbound side. Private school property to the northwest. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 3 foot barbed wire in disrepair north of westbound side. |
| Consider for camera? | No |



westbound culvert entrance blocked



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound

Comments

The location surveyed is approx. 10 meters west of true A81 waypoint. As noted, culvert almost completely blocked At survey site. There is excellent access to culvert on south side, but poor access to grade level culvert on north side.

Management recommendations

Wildlife crossing sign. Rumble strip. Barrier fencing.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 35035 |
| Survey Date | 01/08/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A82 |
| Drop Point (Lat/Long) | |
| Latitude | 33.25689 |
| Longitude | -116.79712 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Steep embankment rising 30 feet from north side. (Westbound side) |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing at grade level. Lack of culvert or bridge. Steep embankment on north side dropping to road. Traffic noise. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to road on eastbound side. |
| Consider for camera? | No |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound

| | |
|----------------------------|---|
| Comments | This location is 20 meters east of P91. There is a small culvert there, but currently inadequate for wildlife transit. Due to steep embankment on westbound side, this location not readily amenable to placement of north-south culvert. |
| Management recommendations | Barrier fencing. Rumble strip. Wildlife crossing signs. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 35042 |
| Survey Date | 01/08/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A83 |
| Drop Point (Lat/Long) | |
| Latitude | 33.250568 |
| Longitude | -116.788538 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 20 feet below road on westbound side. 50 feet below road on eastbound side. Empties at base of steep embankment on south side next to stream. |
| Height | 2 |
| Width | 2 |
| Length | 100 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Small diameter of culvert. Crossing otherwise at grade. Traffic noise. Relatively steep culvert. Long culvert as related to small diameter. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |



westbound



westbound



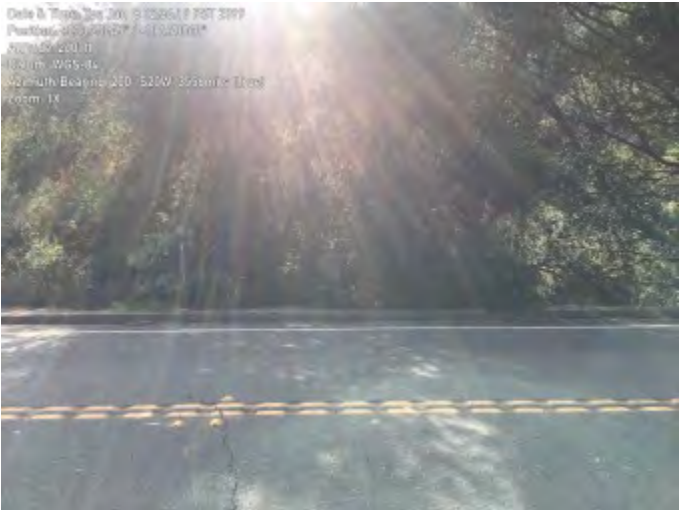
westbound



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbiund



eastbound

Comments

Culvert empties into thick tangle of driftwood on south side. Stream rises to culvert exit in heavy rain. Amenable to improving culvert size and access. Because culvert access points are away from and below road, traffic noise less here.

Management recommendations

Barrier fencing. Rumble strip. Wildlife crossing sign. Increase diameter of culvert while at the same time making it more level, and opening up area at culvert exit on south side.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 20208 |
| Survey Date | 08/01/2018 |
| User | Jamie Bourdon |
| Highway name | 76 |
| Location | A84 |
| Drop Point (Lat/Long) | |
| Latitude | 33.243421 |
| Longitude | -116.779153 |
| Speed | 1.25 m/s |
| Direction | 97.9171142578125 degrees from N |
| Altitude | 793.891893386841 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 30 |
| Width | 25 |
| Length | 120 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Year round - not obstructing movement |
| Human presence likely at night? | Yes |
| Describe human presence potential | Graffiti, minimal poss transient camping. |
| Constraints | Potential |
| Describe constraint | Occasional human presence. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Mule deer, raccoon and coyote tracks. |
| Fencing present? | No |
| Consider for camera? | No |





| | |
|----------------------------|---|
| Comments | Bridge over San Luis Rey. Good undercrossing. |
| Management recommendations | Directional fencing. Occasional security patrol to deter trespassing. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 35053 |
| Survey Date | 01/08/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | A84 |
| Drop Point (Lat/Long) | |
| Latitude | 33.243361 |
| Longitude | -116.779148 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet. |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 30 |
| Width | 180 |
| Length | 30 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Year round - not obstructing movement |
| Human presence likely at night? | Unknown |
| Constraints | Yes |
| Describe constraint | Human presence likely at times. See graffiti. Traffic noise under overpass. The stream here may flow year round, but areas lateral to stream are amenable to wildlife transit. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails |
| Fencing present? | No |
| Consider for camera? | Yes |
| Camera suggestions | Under bridge. At approaches to bridge on north and south. |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



camera SANDAG 10 Placed at southeast corner under bridge 15 meters south of east abutment



camera SANDAG 10 Camera view to north.



camera SANDAG 10 new placement

Comments

This is a long single span bridge. There are 3 main areas of passage beneath it, separated by two concrete support abutments. The main central area spans a large currently fully flowing stream. The two lateral areas slope upward, are smaller, and would remain mostly dry even during a heavy rain. There is a significant amount of graffiti on the abutment walls, but no indication of ongoing human encampment. This location is easily accessible to wildlife transit from north and south. Passage is via riparian environment. Camera SANDAG relocated on 8-14-19 due to vandalism. New photo taken.

Management recommendations

Noise dampening. Barrier fencing. Fencing to exclude human presence. Directional fencing. Enhancement of wildlife trails leading to this area.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 42684 |
| Survey Date | 04/09/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | A85 |
| Drop Point (Lat/Long) | |
| Latitude | 33.150022 |
| Longitude | -116.675134 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Crossing at grade. Open field/hillside directly to the south offering minimal natural cover. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | Three foot barbed wire parallel to northbound lane. Three foot 4x4 wire fence parallel to southbound lane. |
| Consider for camera? | No |



northbound



northbound



northbound



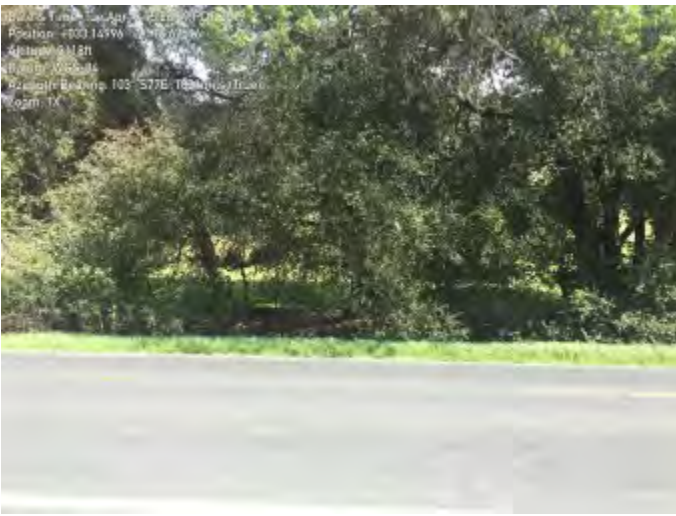
northbound



northbound



southbound



southbound



southbound



southbound



southbound

Comments

Although this location offers no crossing structure, the landscape offers an excellent approach from east and west. The shoulders of 79 are conducive to construction of an undercrossing structure.

Management recommendations

Construction of large culvert undercrossing structure. Sound dampening. Barrier fencing.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 42846 |
| Survey Date | 04/10/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | Agua Caliente Creek Bridge. |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 172.541381835938 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 15 |
| Width | 180 |
| Length | 30 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Possible minimal human presence. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Rodent and bird tracks. |
| Fencing present? | No |
| Consider for camera? | Yes |
| Camera suggestions | Both sides of bridge. |



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



southbound



southbound



southbound



southbound



southbound



southbound



southbound

Comments

Good riparian corridor to east and west. Minimal graffiti. Pacific Crest Trail passes beneath this bridge. Traffic minimal through this area.

Management recommendations

Barrier fencing and directional fencing to funnel wildlife beneath bridge.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 63288 |
| Survey Date | 11/19/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | Buena Vista Creek Bridge |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 212.955932617188 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 10 |
| Width | 10 |
| Length | 35 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Year round - not obstructing movement |
| Human presence likely at night? | No |
| Constraints | Potential |
| Describe constraint | Traffic noise. Water under bridge. Thick vegetation both sides. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 3 foot barbed wire |
| Consider for camera? | No |



southbound



southbound



southbound



southbound



southbound



northbound



northbound



northbound



northbound



northbound



morthbound

Comments

Management
recommendations

Clear out vegetation sound dampening.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 42842 |
| Survey Date | 04/10/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | Canada Verde Creek |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 172.393280029297 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 6 |
| Width | 25 |
| Length | 25 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Proximity to Cal Fire Station Warner Springs Sparse development to northwest. Some commercial properties adjacent to fire station. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire enclosing access on northbound and southbound sides. Also parallel to road Northbound and southbound. |
| Consider for camera? | Yes |
| Camera suggestions | Both sides of bridge. |



southbound



southbound



southbound



southbound



southbound



southbound



southbound



southbound

Comments

Minimal human presence here. Under bridge access limited to a great degree by new placement of barbed wire. This is Canada Verde Creek drainage.

Management recommendations

Barrier fencing to north and south. Directional fencing.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 17321 |
| Survey Date | 07/10/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | F113 |
| Drop Point (Lat/Long) | |
| Latitude | 33.423536 |
| Longitude | -117.152569 |
| Speed | 0.699999988079071 m/s |
| Direction | 241.813446044922 degrees from N |
| Altitude | 335.025089263916 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Highway 395 lies just to the east of I15. Ag nursery on east side of crossing beyond 395. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | No undercrossing access. Any potential crossing is across fwy at grade. Highway 395 to the east. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple game Trails on west side. |
| Fencing present? | Yes |

| | |
|----------------------------------|--|
| Describe fencing type and height | 6 foot chain link at bottom of slope east side between I-15 and 395. 6 foot barbed wire on west side approx. 100 feet upsloap running north south. |
| Consider for camera? | No |



northbound I15



northbound I15. looking east toward 395



NB I15NB



NB



Southbound I15



SB



SB



SB

| | |
|----------------------------|---|
| Comments | West side of I15 rocky vegetated slope with good corridor habitat 1/4 mile to north and to south. Evidence of game Trails on west side. |
| Management recommendations | Minimal due to development on east side beyond 395. Consider barrier fencing on west side to prevent crossing. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 28284 |
| Survey Date | 10/18/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | Frey Creek Bridge. SR 76. |
| Drop Point (Lat/Long) | |
| Latitude | 33.343507 |
| Longitude | -117.021401 |
| Speed | 0.910000026226044 m/s |
| Direction | 251.145568847656 degrees from N |
| Altitude | 214.373847961426 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 20 |
| Width | 35 |
| Length | 35 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Heavy graffiti. Food, trash, dishes, headphones. Would appear to be sporadic presence. |
| Constraints | Yes |
| Describe constraint | Traffic noise. Human presence. Water during heavy rain. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | Three foot barbed wire on Southwest about 30 feet from road. Parallel to road. Similar fencing in disrepair to southeast. |

| | |
|----------------------|--|
| Consider for camera? | Yes |
| Camera suggestions | No Glow cameras at entrance and exit under bridge. |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



camera view C 25



camera location C 25

Comments

This location as surveyed (at location of bridge over Frey Creek) is actually approximately 50 meters west of A62. excellent potential crossing location. Human presence may be a factor.

This location is Frey Creek bridge.

Management
recommendations

Barrier to prevent human presence. Wildlife directional and barrier fencing. Sound dampening.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 35028 |
| Survey Date | 01/08/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | M141 |
| Drop Point (Lat/Long) | |
| Latitude | 33.262022 |
| Longitude | -116.804604 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 2 feet |
| Height | 3 |
| Width | 3 |
| Length | 45 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. At three feet, diameter of culvert not suitable for larger animals. Crossing otherwise at grade. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 3 foot barbed wire in disrepair on south side of 76 parallel to road. |
| Consider for camera? | No |



eastbound



eastbound



eastbound



eastbound



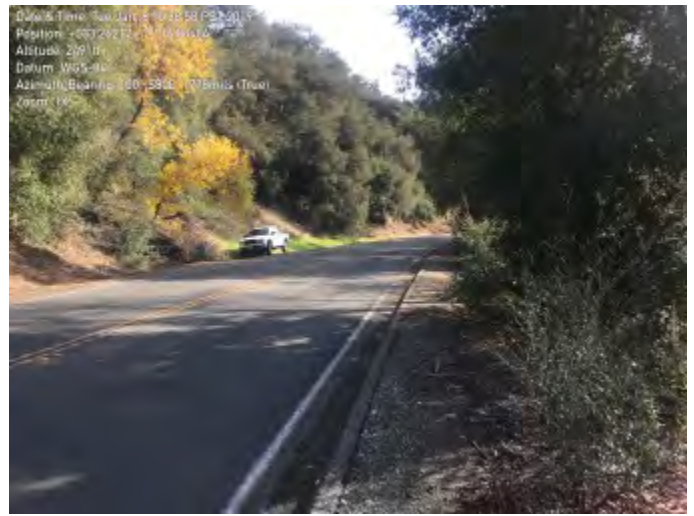
eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound

Comments

This appears to be a good potential crossing location. Minimal grade to culvert. Appears to have potential for increasing diameter of culvert to accomodate larger wildlife.

Management recommendations

Increase diameter of culvert. Barrier fencing. Directional fencing. Wildlife trails. Wildlife crossing sign.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 19827 |
| Survey Date | 07/30/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | M186 |
| Drop Point (Lat/Long) | |
| Latitude | 33.436575 |
| Longitude | -117.139923 |
| Speed | 0.0 m/s |
| Direction | 277.5439453125 degrees from N |
| Altitude | 364.580313007868 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | NB: Approx. 100 meters east of I 15 is residential development. 50 meters beyond this to the east is 395. On SB side of I 15 there is a steep, sparsely vegetated slope which rises 75 meters above fwy. Between NB and SB lanes is a steeply sloped median also with no vegetative cover. |
| Landscape and veg structure suggest corridor | No |
| Describe limitation of landscape and veg and which side of road | Steeply graded high slope on SB side. There is a riparian area in a steep canyon approx 30 below I-15 NB, but it is flanked on east side by 395 and residential area. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Residential activity at night to east. |
| Constraints | Yes |
| Describe constraint | Residential area. Crossing at grade. Steep barren slope on west side I-15. Traffic noise. |

| | |
|----------------------------------|--|
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire 10 meters from 395 paralleling Highway. |
| Consider for camera? | No |



NB



NB



NB



NB



NB



SB



SB



SB



SB



SB

Comments

From the high peak on SB side to high peak on NB side is approx. 1/2 mile. This large span may not be conducive to overpass here due to distance involved. There is no access to build culvert on SB side due to slope rising upward from roadway. 395 is another barrier to the east. There is also a small construction site immediately to the east of 495 here.

Management recommendations

Barrier fencing to the east of 395. Barrier fencing to the west of SB I-15. Consider wildlife overpass.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 19834 |
| Survey Date | 07/30/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | M188 |
| Drop Point (Lat/Long) | |
| Latitude | 33.443226 |
| Longitude | -117.137788 |
| Speed | 0.0 m/s |
| Direction | 258.882629394531 degrees from N |
| Altitude | 376.299564361572 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 220 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Large RV storage facility on NB side. NB exit lane for truck scales. Beyond RV storage to the east is residential, Rainbow Canyon Road and Highway 395. See P41. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | Seasonal |
| Human presence likely at night? | Unknown |
| Constraints | Yes |
| Describe constraint | 200 foot rise in elevation to the west of SB 15. Natural chaparral environment. But this drops down to level of I-15. Crossing at grade from west side and east side. Truck stop Border Patrol just north of here with busy truck offramp NB I-15 here. High peak of equivalent elevation on NB I-15 here. Maybe 1/2 mile peak to peak. RV storage. Rainbow Canyon Rd. Highway 395 to the east. |
| Evidence of other animals? | Yes |
| Describe evidence of other | Game Trails. |

| | |
|----------------------------------|--|
| animals present | |
| Fencing present? | Yes |
| Describe fencing type and height | 8 foot barbed wire between I-15 and truck exit on NB. 8 foot barbed wire perpendicular to I-15 on NB side extending from truck exit to RVarea. 8 foot barbed wire with razor wire surrounding RV area. |
| Consider for camera? | No |



SB



SB



SB



SB



SB



SB



SB



NB



NB



NB



NB



NB

Comments

Although area to west of SB 15 is conducive to wildlife travel here, the path from the west currently drops several hundred feet to the edge of SB I-15. Crossing currently only at grade. The hilltop peak is at the top of a naturally vegetated slope of at least 200 feet. It is probably 1/2 mile peak to equivalent peak east to west.

Management recommendations

Barrier fencing. Consider very long span wildlife overpass.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 15618 |
| Survey Date | 06/19/2018 |
| User | winston vickers |
| Highway name | Pala-Temecula Rd |
| Location | N1 |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Winston |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 ft |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | |
| Height | 3 |
| Width | 3 |
| Length | 100 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | |
| Constraints | Potential |
| Describe constraint | East end of culvert opening elevated 1 ft above ground |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Rodent dropping's in culvert and game trails leadin toand around culvert mouth up to roadside |
| Fencing present? | No |
| Consider for camera? | |

| | |
|----------------------------|--|
| Photos | None |
| Comments | <p>33.39738,-11708363 - saved in Google Earth as N1</p> <p>Marked in Montana as pala new cross1</p> <p>Culvert runs slightly uphill east to west</p> <p>Good camera site</p> <p>Estimated distance below road on east 20 ft</p> <p>On west side culvert only about 10 ft below road</p> <p>Culvert more natural pathway though some game trail on north side of culvert</p> <p>Game trail from west comes right to culvert mouth</p> |
| Management recommendations | Directional fence to culvert with larger culvert installed could make good crossing |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 15601 |
| Survey Date | 06/19/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | N2 |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | |
| Height | 3 |
| Width | 3 |
| Length | 300 |
| Structure floor material | Concrete |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Highway 395 to the west would need to be crossed first. East corridor is flanked by ag land. Steep grade from west to east side. Culvert at steep grade. East side canyon/ corridor shallow compared to west side. Thus the steep gradient. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails west side |
| Fencing present? | Yes |
| Describe fencing type and height | Barb wire fence. 4 feet high. 100 feet from crossing. Extending from north to south on |

west approach. 4 feet high barbed wire traverses east side 75 feet from road.

Consider for camera?



southbound I15



southbound I15



southbound I15



southbound I15



southbound I15



southbound I15



northbound I 15



northbound I 15



northbound I 15



northbound I 15



northbound I 15



northbound I 15

| | |
|----------------------------|---|
| Comments | <p>Site is located .25 mile south of WS10. Obvious travel corridor from west to east. Upon inspecting western approach, observed 3 foot culvert at base of slope. Western culvert location 33.3753,-117.1713. Culvert is approx 100 feet from road and at least 50 feet below grade. Western access to the western approach is more difficult via the 395 than WS10 in this location. East side culvert approx 60 from road and 20 feet below grade. Steep culvert gradient below road. East canyon/corridor terminates into agricultural land based on satellite and onsite survey, limited practical travel corridor to the East.</p> |
| Management recommendations | <p>In terms of I-15 undercrossing in this vicinity, due to presence of culvert this has potential for undercrossing, however due to culvert gradient and east canyon corridor, there are limitations for undercrossing. Directional fencing required both sides.</p> |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 15999 |
| Survey Date | 06/25/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | N3 |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 170' |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | |
| Height | 2.5 |
| Width | 2.5 |
| Length | 200 |
| Structure floor material | Concrete |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Can't see through culvert. Small diameter |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Rabbit road kill on shoulder. See photo. Heavily travelled multiple game Trails throughout area. |
| Fencing present? | Yes |
| Describe fencing type and height | 4 ft. Barbed wire 75 100 feet off road running north south. |
| Consider for camera? | |



northbound I15



northbound I15



northbound I15



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound

Comments

This is most logical crossing continuation from west side Ws10. 33.3787,-117.1720. This site name is Ws10-2. Heavily vegetated and well protected canyon to the east. Culvert is approx. 35 feet below grade. Need to investigate termination of culvert on west side at

| | |
|----------------------------|--|
| Management recommendations | Large culvert and directional fencing isolating protective canyon to the east and directional fencing to culvert entrances on east and west sides. |
|----------------------------|--|

SA-PAL survey

| | |
|---|---------------------------------|
| Project | SA-PAL project |
| ID | 16426 |
| Survey Date | 06/28/2018 |
| User | winston vickers |
| Highway name | I-15 |
| Location | NEW |
| NEW Location | Aaa |
| Drop Point (Lat/Long) | |
| Latitude | 37.964119 |
| Longitude | -122.492094 |
| Speed | 0.0 m/s |
| Direction | 275.237182617188 degrees from N |
| Altitude | 1.76227188110352 m |
| Accuracy | m |
| Surveyor | Winston |
| Road type | |
| Estimated width of road from one pavement edge to the other | |
| Landscape character suggestive of likely crossing point | |
| Landscape and veg structure suggest corridor | |
| Other species observed | |
| Structure type | |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | |
| Constraints | |
| Evidence of other animals? | |
| Fencing present? | |
| Consider for camera? | |
| Photos | None |
| Comments | |
| Management recommendations | |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 28383 |
| Survey Date | 10/19/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | NEW |
| NEW Location | Marion Canyon. East of A53. |
| Drop Point (Lat/Long) | |
| Latitude | 33.360601 |
| Longitude | -117.044694 |
| Speed | 0.0 m/s |
| Direction | 126.12516784668 degrees from N |
| Altitude | 167.550300598145 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Square culvert |
| Culvert distance below road | 15 |
| Height | 10 |
| Width | 10 |
| Length | 90 |
| Structure floor material | Concrete |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Graffiti present which is new. However, no trash or indication of persistent human presence. This area is comparatively clean. |
| Constraints | Yes |
| Describe constraint | Human presence. Traffic noise |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails, scat |

| | |
|----------------------------------|---|
| Fencing present? | Yes |
| Describe fencing type and height | Two to four foot barbed wire at top of culvert on south side. |
| Consider for camera? | Yes |
| Camera suggestions | Culvert entrance, exit. Surrounding game Trails. |



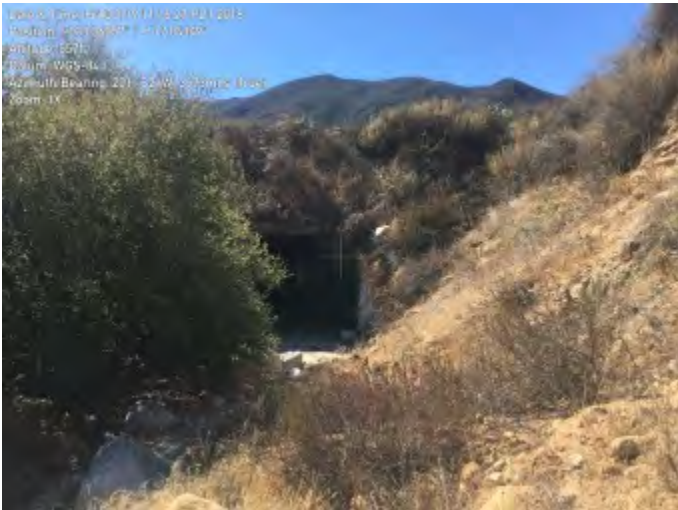
westbound



westbound



westbound



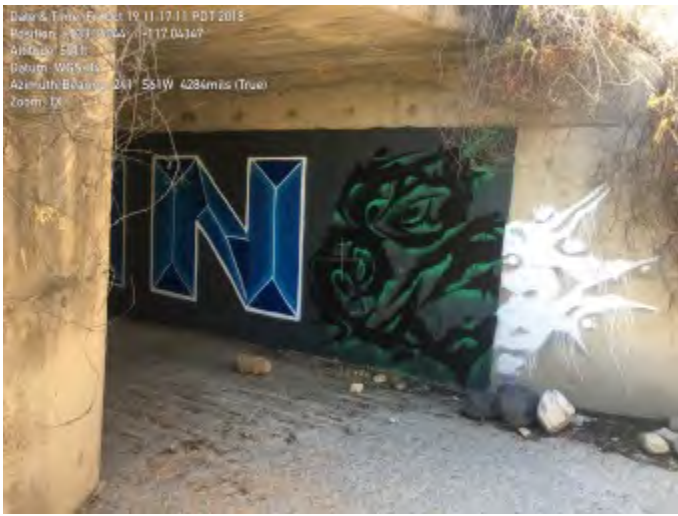
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westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



camera JO 25



camera view JO 25

Comments

This is an excellent crossing area with natural streambed habitat on eastbound and westbound sides of 76. This is a new area located near Marion Canyon on 76. Immediately to the east of A53. GPS location noted via pin drop and Nav Cam headings. This location is immediately east of "Entering Pala Indian Reservation" sign as photographed facing east on the shoulder of the eastbound lane on 76. Camera JO 25 placed here on 7-17-19. It is positioned at the southwest corner of the culvert facing inward and chained to the tree in that location.

Management recommendations

Sound dampening. Directional fencing. Barrier fencing to restrict human access and to prevent wildlife access to road here.

SA-PAL survey

| | |
|---|----------------|
| Project | SA-PAL project |
| ID | 70682 |
| Survey Date | 11/08/2018 |
| User | Rich Codington |
| Highway name | |
| Location | NEW |
| NEW Location | |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | 0 m |
| Surveyor | |
| Road type | |
| Estimated width of road from one pavement edge to the other | |
| Landscape character suggestive of likely crossing point | |
| Landscape and veg structure suggest corridor | |
| Other species observed | |
| Structure type | |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | |
| Constraints | |
| Evidence of other animals? | |
| Fencing present? | |
| Consider for camera? | |
| Photos | None |
| Comments | |
| Management recommendations | |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 33883 |
| Survey Date | 12/13/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | NEW |
| NEW Location | Temecula Creek Golf Course North Culvert |
| Drop Point (Lat/Long) | |
| Latitude | 33.469481 |
| Longitude | -117.137236 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 200 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | East side is golf course and commercial development. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Golf course and commercial development northbound side I 15. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 5 feet |
| Height | 3 |
| Width | 3 |
| Length | |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Diameter of culvert, at 3 feet, is adequate for passage of smaller wildlife only. Can see partially through culvert only. There is a vertical shaft allowing light penetration approx. |

10 meters to east, at far western edge of freeway. Beyond this is visually inaccessible from west. Traffic noise very loud here due to close proximity of culvert to I-15 SB.

| | |
|--|--|
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire approx. 30 meters west of I-15. Parallel to freeway. In disrepair. |
| Consider for camera? | Yes |
| Camera suggestions | Placed slightly uphill from and facing into culvert access on SB I-15. |



Southbound



Southbound



southbound



southbound



southbound



southbound



southbound



camera southbound # SANDAG 11



southbound



southbound. Vertical access to culvert at edge of freeway.



camera southbound

| | |
|----------------------------|---|
| Comments | <p>Natural landscape and vegetation provides good corridor to the west. Narrow culvert. Unable to determine slope Of culvert from west to east.</p> <p>This location is about 30 meters north of Temecula Creek Golf Course culvert on SB I-15. It is directly across freeway from end of golf course driving range fencing on NB I-15. Culvert on NB I 15 is inaccessible. It is on Pachanga property. As of 12-14-18, the survey for this location on the Northbound side of I-15 has not been completed. There is a vertical shaft at the edge of the freeway allowing light to penetrate into the culvert here. Unable to see through culvert to east side.</p> |
| Management recommendations | <p>Enlarge culvert diameter. Increase depth of culvert. Level angle of culvert slope SB to NB I 15. Barrier fencing. Directional fencing. Trails to direct wildlife to culvert. Probably not a good crossing point due to commercial/Pechanga property on Northbound side.</p> |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 35037 |
| Survey Date | 01/08/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | NEW |
| NEW Location | A82 East |
| Drop Point (Lat/Long) | |
| Latitude | 33.25576 |
| Longitude | -116.795534 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 3 feet below road on north side. Twenty feet below road on south side. |
| Height | 4 |
| Width | 4 |
| Length | 45 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Potential |
| Describe constraint | Approx. 15 degree downslope to culvert from north to south. Traffic noise. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |



eastbound



eastbound



eastbound



eastbound



eastbound



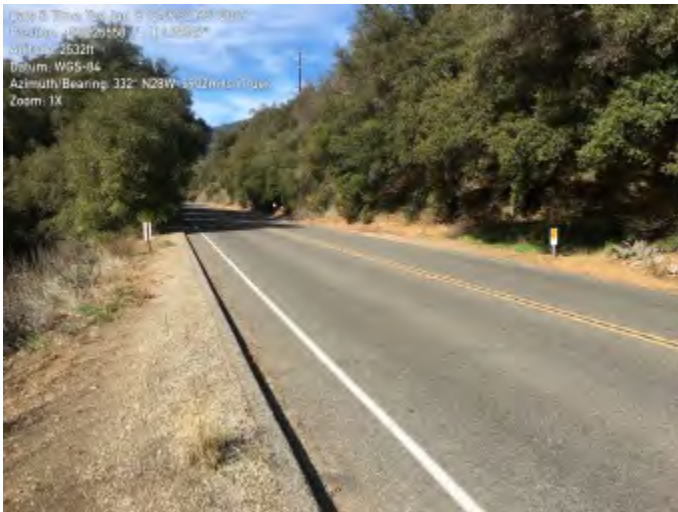
eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound

| | |
|----------------------------|--|
| Comments | Larger diameter culvert with good access. This location amenable to wildlife crossing. Natural landscape to north and south. |
| Management recommendations | Barrier fencing. Directional fencing. Increase culvert diameter. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 42850 |
| Survey Date | 04/10/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | NEW |
| NEW Location | San Luis Rey River Bridge. |
| Drop Point (Lat/Long) | |
| Latitude | 33.30939 |
| Longitude | -116.69296 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 15 |
| Width | 200 |
| Length | 30 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Small potential for human presence. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Deer tracks crossing beneath bridge. Raccoon tracks. Game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to northbound 79 |
| Consider for camera? | Yes |



southbound



southbound



southbound



soithbound



southbound



southbound



southbound



southbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound

Comments

Many deer tracks beneath indicate a good crossing location. Minimal graffiti. No evidence of ongoing human presence.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 42852 |
| Survey Date | 04/10/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | NEW |
| NEW Location | Some Creek Bridge SR 79 |
| Drop Point (Lat/Long) | |
| Latitude | 33.331278 |
| Longitude | -116.709868 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 30 |
| Width | 20 |
| Length | 25 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Small potential for human presence due to graffiti. No evidence of ongoing human encampment. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple small wildlife tracks. |
| Fencing present? | Yes |
| Describe fencing type and height | 6 foot barbed wire parallel to northbound 79 4 foot barbed wire parallel to Southbound 79 |

| | |
|----------------------|-----------------------|
| Consider for camera? | Yes |
| Camera suggestions | Both sides of bridge. |

Photos

Date & Time: Wed Apr 10 15:06:17 PDT 2019
Position: +003 33105 / -116 70996
Altitude: 3025ft
Datum: WGS-84
Azimuth/Bearing: 315° NW 560mils (True)
Zoom: 1X



southbound

Date & Time: Wed Apr 10 15:08:03 PDT 2019
Position: +003 33114 / -116 70960
Altitude: 3033ft
Datum: WGS-84
Azimuth/Bearing: 356° NW 532mils (True)
Zoom: 1X



southbound

Date & Time: Wed Apr 10 15:08:57 PDT 2019
Position: +003 33114 / -116 70969
Altitude: 3027ft
Datum: WGS-84
Azimuth/Bearing: 242° SW 376mils (True)
Zoom: 1X



doithbound

Date & Time: Wed Apr 10 15:08:52 PDT 2019
Position: +003 33103 / -116 70999
Altitude: 3017ft
Datum: WGS-84
Azimuth/Bearing: 036° N 34E 660mils (True)
Zoom: 1X



southbound

Date & Time: Wed Apr 10 15:09:44 PDT 2019
Position: +003 33119 / -116 70997
Altitude: 3025ft
Datum: WGS-84
Azimuth/Bearing: 081° N 81E 1442mils (True)
Zoom: 1X



southbound

Date & Time: Wed Apr 10 15:10:58 PDT 2019
Position: +003 33153 / -116 71025
Altitude: 3035ft
Datum: WGS-84
Azimuth/Bearing: 123° SE 2187mils (True)
Zoom: 1X



southbound



southbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound

Comments

Good location for crossing beneath 79 bridge. Streambed/riparian landscape to east and west. Minimal traffic in this area. Undercrossing similar to large box culvert.

Management recommendations

Sound dampening. Barrier and directional fencing to funnel wildlife here.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 42858 |
| Survey Date | 04/10/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | NEW |
| NEW Location | Chihuahua Creek Bridge |
| Drop Point (Lat/Long) | |
| Latitude | 33.396817 |
| Longitude | -116.799079 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 35 |
| Width | 150 |
| Length | 25 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Minor potential for human presence due to very minimal graffiti. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple deer tracks in streambed under bridge. Multiple other tracks. |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to road northbound and southbound. |
| Consider for camera? | Yes |



northbound



notthbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



southbound



southbound



southbound



southbound



southbound



southbound

Comments

Good area for crossing with natural riparian environment to east and west. Boundary Wildlife area to east.

Management recommendations

Sound dampening. Barrier and directional fencing to funnel wildlife under bridge.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 63068 |
| Survey Date | 11/18/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | P100 |
| Drop Point (Lat/Long) | |
| Latitude | 33.200403 |
| Longitude | -116.710356 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Arch culvert |
| Culvert distance below road | 20 feet |
| Height | 15 |
| Width | 14 |
| Length | 40 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Potential |
| Describe constraint | Traffic noise. Periodic human presence. There is graffiti, but no indication of ongoing human encampment. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple tracks through culvert. |
| Fencing present? | No |
| Consider for camera? | Yes |



northbound



northbound



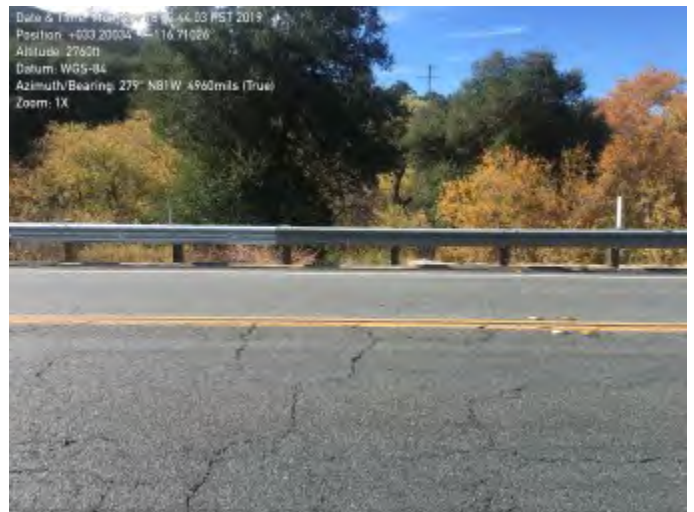
northbound



northbound



northbound



northbound



northbound



northbound



southbound



p100 southbound



southbound



southbound



southbound



southbound



southbound.

Comments

Although this location is adjacent to P99, that location consists of a culvert passing north south beneath SR 76. This location (P100) consists of a culvert which passes east west beneath SR 79, slightly north of the 76-79 intersection. It is also a good wildlife conduit due to its size and accessibility. Traffic flow and noise are moderate. There is a stop sign on 76 at the intersection which slows traffic down approaching the intersection from the west.

Management recommendations

Barrier fencing. Directional fencing and trails to funnel wildlife beneath highways here. Wildlife crossing signs. Consider stop sign on 79 at the intersection to slow north-south traffic down.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 41347 |
| Survey Date | 03/27/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | P101 |
| Drop Point (Lat/Long) | |
| Latitude | 33.197068 |
| Longitude | -116.70989 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing at grade. Traffic noise. No crossing structure. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | Three foot barbed wire 15 meters west of and parallel to southbound 79. |
| Consider for camera? | No |



southbound



southbound



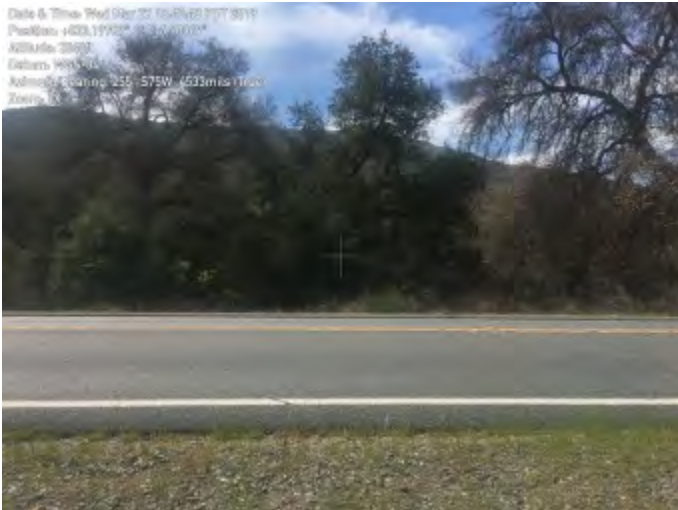
southbound



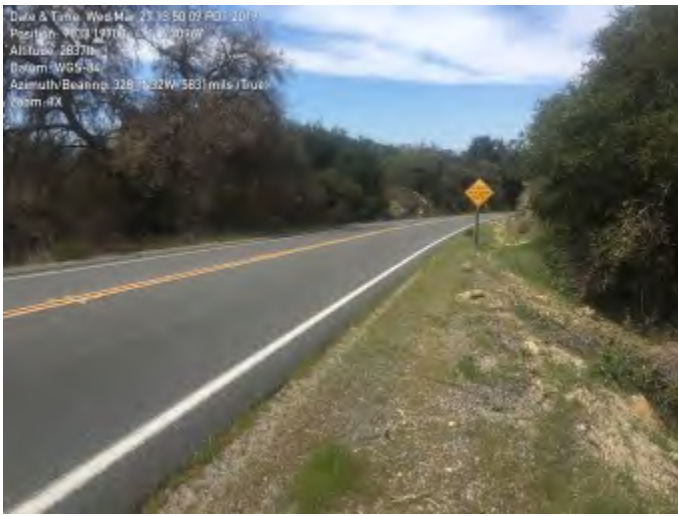
southbound



northbound



northbound



northbound



northbound



northbound

Comments

Landscape and terrain present an ideal corridor for travel here. However, there is no crossing structure to facilitate wildlife crossing. Embankments which drop down from both southbound and northbound lanes are conducive to constructing a culvert large enough for wildlife travel. Embankment on west side drops down to Carrista Creek drainage which parallels 79.

Management recommendations

Barrier fencing. Creation of culvert beneath road to allow wildlife travel.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 41365 |
| Survey Date | 03/27/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | P102 |
| Drop Point (Lat/Long) | |
| Latitude | 33.194067 |
| Longitude | -116.70732 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. No crossing structure, hence crossing at grade. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire 15 meters from and parallel to southbound 79. |
| Consider for camera? | No |



northbound



northbound



northbound



northbound



southbound



southbound



southbound



southbound

| | |
|----------------------------|---|
| Comments | Landscape and terrain conducive to crossing, but absence of crossing structure creates dangerous crossing situation. Steep embankment dropping to edge of northbound lane precludes construction of undercrossing here. Steep embankment drops off from southbound lane to Carrista Creek drainage. |
| Management recommendations | Barrier fencing. Wildlife crossing signs. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 63249 |
| Survey Date | 11/19/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | P103 |
| Drop Point (Lat/Long) | |
| Latitude | 33.227626 |
| Longitude | -116.70104 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 2 |
| Width | 30 |
| Length | 30 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Potential |
| Describe constraint | Traffic noise. Height of space beneath bridge is only 2 feet at this time. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Tracks at southbound and northbound sides. |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to highway northbound and southbound |
| Consider for camera? | Yes |



southbound



southbound



southbound



southbound



southbound



southbound



southbound



southbound



southbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound

Comments

There is excellent open habitat to east and west. The riverbed travels beneath the bridge northeast to southwest. The vertical access beneath bridge is limited at two feet, presumably due to accumulation of sediment. Increasing vertical space would allow

access for transit of larger wildlife. Traffic flow is low to moderate here with high noise level when traffic present.

Management
recommendations

Barrier fencing. Dredge beneath bridge to increase vertical access.

SA-PAL survey

| | |
|---|----------------|
| Project | SA-PAL project |
| ID | 63395 |
| Survey Date | 11/19/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | P103 |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | |
| Constraints | |
| Evidence of other animals? | |
| Fencing present? | |
| Consider for camera? | |
| Photos | None |
| Comments | |
| Management recommendations | |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 63264 |
| Survey Date | 11/19/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | P104 |
| Drop Point (Lat/Long) | |
| Latitude | 33.235754 |
| Longitude | -116.693553 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Square culvert |
| Culvert distance below road | 10 feet |
| Height | 6 |
| Width | 6 |
| Length | 35 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Potential |
| Describe constraint | Traffic noise. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Tracks through culvert |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to highway northbound and southbound |
| Consider for camera? | Yes |



southbound



southbound



southbound



southbound



southbound



southbound



southbound



southbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound

Comments

Excellent crossing structure with natural habitat to east and west. Traffic noise compounded by proximity of culvert to road.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 63265 |
| Survey Date | 11/19/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | P104 north |
| Drop Point (Lat/Long) | |
| Latitude | 33.237348 |
| Longitude | -116.692722 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Square culvert |
| Culvert distance below road | 8 |
| Height | 4 |
| Width | 4 |
| Length | 30 |
| Structure floor material | Concrete |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Potential |
| Describe constraint | Traffic noise. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to highway northbound and southbound. |
| Consider for camera? | Yes |



northbound



northbound



northbound



northbound



northbound



northbound



northbound



southbound



southbound



southbound



southbound



southbound



southbound



southbound

| | |
|----------------------------|--|
| Comments | Open, natural landscape to east and west. Good wildlife access to this large culvert. Culvert is close to highway so traffic noise is significant. |
| Management recommendations | Barrier fencing. Directional fencing. Sound dampening. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 41380 |
| Survey Date | 03/27/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | P105 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 172.855087280273 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Large open field for 100 meters west of southbound 79. |
| Other species observed | <i>Meleagris gallopavo</i> / Wild turkey |
| Structure type | Round culvert |
| Culvert distance below road | 15 feet |
| Height | 2 |
| Width | 2 |
| Length | 50 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing at grade for larger wildlife. Traffic noise. Open field with no cover on southbound side. Two foot diameter culvert not large enough to accommodate larger wildlife. Unable to see through culvert. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails. Wild turkeys. |

| | |
|----------------------------------|--|
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire west of southbound lane. |
| Consider for camera? | Yes |
| Camera suggestions | At culvert entrance on northbound side. |



southbound



southbound



southbound



southbound



southbound



southbound



southbound



southbound



southbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound

Comments

Existing culvert of small diameter. Although the large open field lies directly west of this location, there is tree cover approx. 100 meters to the north. Embankment drops off on both sides of road making this culvert amenable to expansion. There is a small diameter pipe next to culvert access on northbound side which drains edge of northbound lane above embankment.

Management recommendations

Expansion of culvert. Barrier fencing.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 42691 |
| Survey Date | 04/09/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | P106 |
| Drop Point (Lat/Long) | |
| Latitude | 33.173345 |
| Longitude | -116.685925 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing at grade. No crossing structure. Traffic noise. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to and west of southbound lane. 4 foot barbed wire parallel to and east of northbound 79. |
| Consider for camera? | No |



southbound



southbound



southbound



southbound



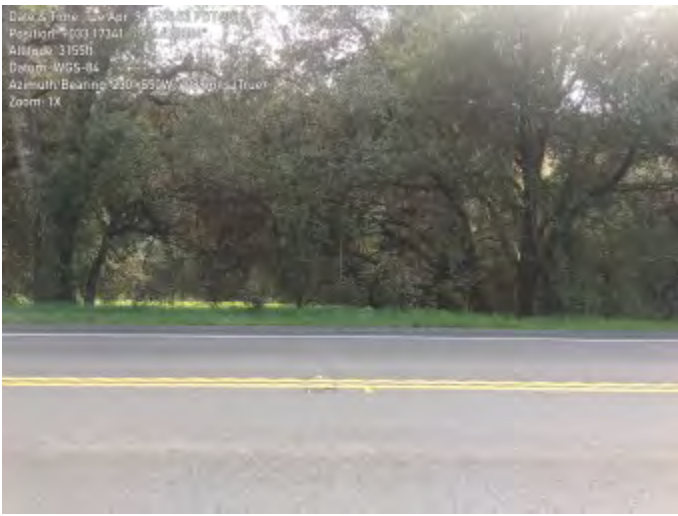
southbound



northbound



northbound



northbound



northbound

| | |
|----------------------------|--|
| Comments | Poor crossing area due to absence of crossing structure. Potential for construction of undercrossing structure due to dropoff embankments southbound and northbound. |
| Management recommendations | Construction of undercrossing structure. Barrier fencing. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 42689 |
| Survey Date | 04/09/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | P107 |
| Drop Point (Lat/Long) | |
| Latitude | 33.166588 |
| Longitude | -116.681774 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Reservation land with minor development on northbound side. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | Yes |
| Describe human presence potential | Santa Ysabel reservation to the east. None directly at crossing. |
| Constraints | Yes |
| Describe constraint | Traffic noise. Crossing at grade. Reservation land to the east. Moderately steep embankments rising from northbound and southbound lanes. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails. |

| | |
|----------------------------------|---|
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire on northbound side parallel to road. |
| Consider for camera? | No |

Photos



northbound



northbound



northbound



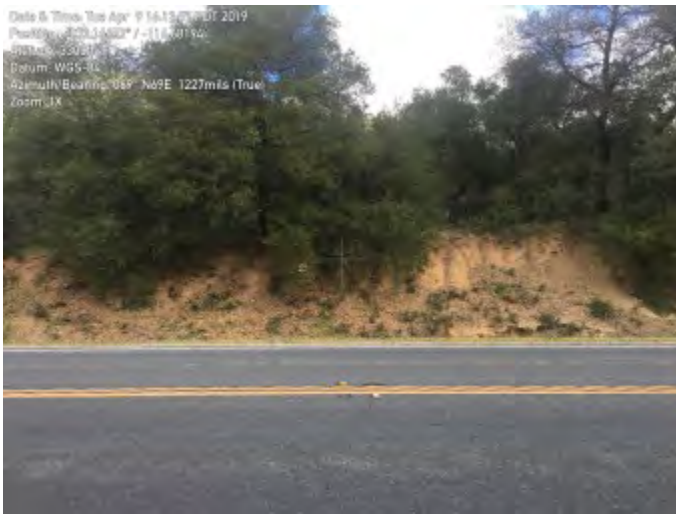
northbound



southbound



southbound



southbound



southbound



southbound

Comments

Not a good crossing location due to constraints mentioned. Not conducive to construction of crossing structure. Note reservation land to east. Epei Hill Rd. slightly to north which turns south into reservation land, paralleling northbound 79.

Management recommendations

Barrier fencing. Wildlife crossing signs.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 63075 |
| Survey Date | 11/18/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | P108 |
| Drop Point (Lat/Long) | |
| Latitude | 33.119368 |
| Longitude | -116.677578 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing at grade. Open grasslands with minimal natural cover for wildlife. Traffic noise and speed. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire parallel to highway southbound and northbound. |
| Consider for camera? | No |

Photos

Date & Time: Mon Nov 18 14:06:22 PST 2015
Position: +003.11921° / -116.43754°
Altitude: 2945ft
Bearing: W55-14
Azimuth Bearing: 231° (NW) 350m (1000ft) Street
Zoom: 14



southbound

Date & Time: Mon Nov 18 14:06:36 PST 2015
Position: +003.11921° / -116.43754°
Altitude: 2945ft
Bearing: W55-14
Azimuth Bearing: 231° (NW) 350m (1000ft) Street
Zoom: 14



southbound

Date & Time: Mon Nov 18 14:06:52 PST 2015
Position: +003.11921° / -116.43754°
Altitude: 2945ft
Bearing: W55-14
Azimuth Bearing: 231° (NW) 350m (1000ft) Street
Zoom: 14



southbound

Date & Time: Mon Nov 18 14:06:57 PST 2015
Position: +003.11944° / -116.43754°
Altitude: 2945ft
Bearing: W55-14
Azimuth Bearing: 231° (NW) 350m (1000ft) Street
Zoom: 14



southbound

Date & Time: Mon Nov 18 14:06:22 PST 2015
Position: +003.11947° / -116.43754°
Altitude: 2945ft
Bearing: W55-14
Azimuth Bearing: 231° (NW) 350m (1000ft) Street
Zoom: 14



northbound

Date & Time: Mon Nov 18 14:06:47 PST 2015
Position: +003.11944° / -116.43754°
Altitude: 2945ft
Bearing: W55-14
Azimuth Bearing: 231° (NW) 350m (1000ft) Street
Zoom: 14



northbound



northbound



northbiund

| | |
|----------------------------|---|
| Comments | No crossing structure here. Although wide open natural landscape to the east and west, it is open grasslands. |
| Management recommendations | Wildlife crossing signs. Rumble strip. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 63090 |
| Survey Date | 11/18/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | P108 north culvert |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 215.753326416016 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet. |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 4 feet |
| Height | 2 |
| Width | 2 |
| Length | 40 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Diameter too small for transit of larger wildlife. Exit and entrance directly adjacent to road. Traffic noise. Crossing otherwise at grade. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 3 foot barbed wire parallel to highway northbound and southbound. |
| Consider for camera? | No |



northbound



northbound



northbound



northbound



northbound



northbound



northbound



southbound



southbound



southbound



southbound



southbound



southbound



southbound

| | |
|----------------------------|---|
| Comments | Approx. 100 meters south of Mission Santa Ysabel. Not a consideration for larger wildlife. Too close to highway to be a consideration for most wildlife. Moderate traffic and noise. Open landscape to east and west. Adjacent to Santa Ysabel Preserve. This location is approx. 75 meters north of P108 North Bridge. |
| Management recommendations | Directional fencing and trails to bridge at P108 north. Wildlife crossing signs. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 63080 |
| Survey Date | 11/18/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | P108 north Santa Ysabel creek Bridge. |
| Drop Point (Lat/Long) | |
| Latitude | 33.127801 |
| Longitude | -116.67859 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 20 |
| Width | 25 |
| Length | 25 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Year round - not obstructing movement |
| Human presence likely at night? | No |
| Constraints | Potential |
| Describe constraint | Traffic noise. Multiple grazing cattle. Occasional human presence as evidenced by graffiti. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Cows. Multiple game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire limiting access to underpass from northbound and southbound. |
| Consider for camera? | Yes |



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



morthbound



southbound



southbound



southbound



southbound



southbound



southbound



southbound



southbound

| | |
|----------------------------|---|
| Comments | Large bridge with excellent space for transit of wildlife. Landscape amenable to travel east and west. This is Santa Ysabel Preserve. Moderate traffic flow and noise. Height of bridge moderates traffic noise to some extent. |
| Management recommendations | Barrier fencing. Direction fencing and trails to guide wildlife to this location for crossing. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 42121 |
| Survey Date | 04/03/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P113 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 174.059875488281 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 8 feet |
| Height | 2 |
| Width | 2 |
| Length | 35 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Diameter of culvert, at two feet, is too small for larger wildlife. Crossing at grade for larger wildlife. Traffic noise. Steep drop off at culvert exit on eastbound side. Difficult access to culvert on westbound side.(Positioned down in small hole.) Low density residential to north. Culvert access on westbound side is adjacent to road. Blind corner to east. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound.



westbound



westbound



westbound

Comments

Low density residential development to south and north. Culvert positioning and roadside access would appear to be amenable to improving access and expansion. More ideal crossing location at NEW P113 South.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 42133 |
| Survey Date | 04/03/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P114 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 172.236206054688 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 5 feet |
| Height | 2 |
| Width | 2 |
| Length | 60 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Narrow diameter of culvert not conducive to transit of larger wildlife. Traffic noise. Culvert entrance on north side is adjacent to road. Culvert exit on eastbound side is in mid slope of steep embankment. Traffic noise. Crossing currently at grade for larger wildlife. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Coyote scat. |
| Fencing present? | No |
| Consider for camera? | No |



eastbound View into San Diego River drainage



eastbound View south into San Diego River drainage.



eastbound



eastbound



eastbound



eastbound



eastbound



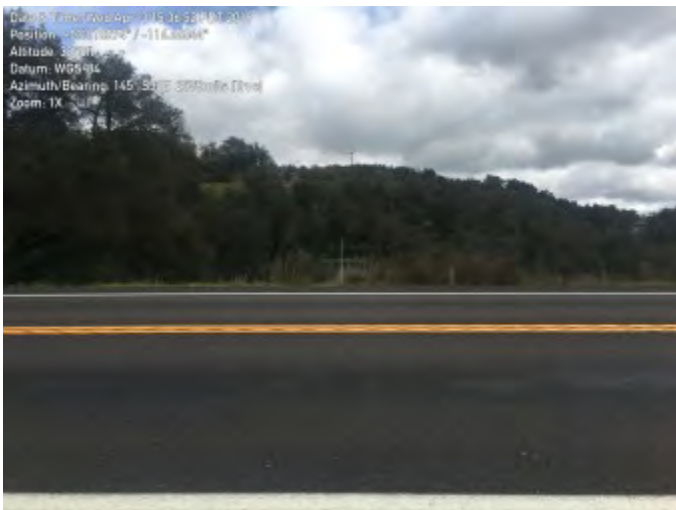
westbound



westbound



westbound



westbound



westbound

Comments

Culvert exit is on steep heavily vegetated downslope on eastbound side. Able to see through culvert from westbound and eastbound sides. Slope on eastbound side drops 50 feet to drainage of San Diego River. The River flows through a natural riparian

environment parallel to 78 to the south.

Management
recommendations

Barrier fencing. Fencing to funnel wildlife toward more ideal crossing at New P113 South.
Wildlife crossing signs.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 41258 |
| Survey Date | 03/26/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P115 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 175.167877197266 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Although the landscape is natural and provides excellent cover on eastbound side, vegetation is very thick and there is a high steep embankment down from eastbound roadside 78. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 10 feet |
| Height | 2 |
| Width | 2 |
| Length | |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Cannot see through culvert. Narrow diameter of culvert. Crossing at grade for larger wildlife. Traffic noise. Steep, heavily vegetated slope on eastbound 78. Culvert exit undetermined on eastbound side. |
| Evidence of other animals? | Yes |
| Describe evidence of other | Rat nest in large concrete culvert westbound side. Game Trails. |

| | |
|----------------------------------|--|
| animals present | |
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire 7 meters north of culvert entrance and parallel to westbound 78. |
| Consider for camera? | No |



westbound Entrance to culvert which transitions to small diameter pipe culvert



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound

Comments

Although this culvert starts on the westbound side as an eight foot square concrete culvert, it only penetrates 12 feet toward the road when it abruptly ends in a 2 foot diameter metal culvert which then crosses beneath the road. Unable to locate culvert exit on eastbound side. It probably lies somewhere down a steep embankment covered with thick undergrowth.

Management recommendations

Possibly widen existing culvert. Barrier fencing. Wildlife crossing signs.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 42172 |
| Survey Date | 04/03/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P116 |
| Drop Point (Lat/Long) | |
| Latitude | 33.100657 |
| Longitude | -116.662619 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 4 feet |
| Height | 2 |
| Width | 2 |
| Length | 30 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Small diameter of culvert. Culvert blocked by mud and debris on eastbound side. Traffic noise. Crossing at grade. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound



westbound



westbound



eastbound Blocked culvert exit on eastbound side



eastbound



eastbound



eastbound



eastbound

Comments

Culvert currently blocked on eastbound side exit. Slope on eastbound side drops to San Diego River drainage. Better crossing location at P113 South.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 41254 |
| Survey Date | 03/26/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P117 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 174.629806518555 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing at grade on blind corner from east and west. No crossing structure. Traffic noise. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple game Trails. |
| Fencing present? | No |
| Consider for camera? | No |



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound

| | |
|----------------------------|---|
| Comments | Natural habitat with good cover to north and south, but poor location to cross road. No crossing structure, blind curves, crossing at grade. No adequate area for placing culvert beneath road. Steep embankment to edge of westbound lane precludes this construction. |
| Management recommendations | Wildlife crossing signs. Barrier fencing. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 41232 |
| Survey Date | 03/26/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P118 |
| Drop Point (Lat/Long) | |
| Latitude | 33.103865 |
| Longitude | -116.692992 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | Five feet |
| Height | 1 |
| Width | 1 |
| Length | 35 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Small diameter of culvert. Crossing at grade for larger wildlife. Culvert openings in close proximity to edge of road. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails |
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire parallel to road eastbound and westbound. |



westbound



westbound



westbound



westbound



westbound



westbound



westbound



eastbound



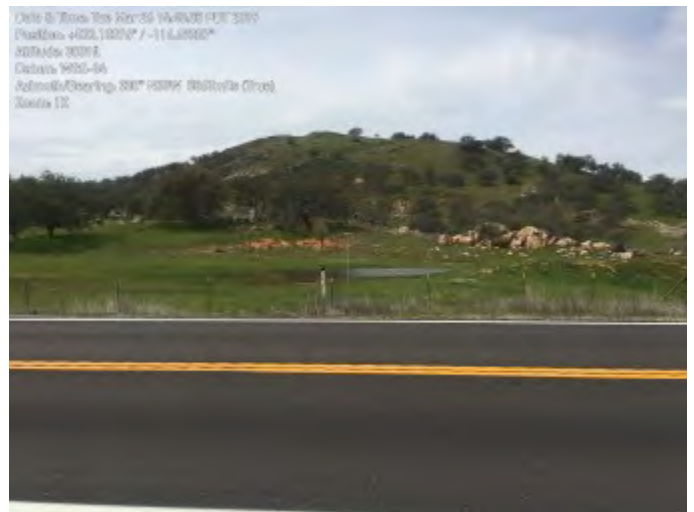
eastbound



eastbound



eastbound



eastbound



eastbound



eastbound

| | |
|----------------------------|--|
| Comments | Landscape on both sides of 78 conducive to wildlife travel. Although culvert diameter currently too small for passage of larger wildlife, the topography to north and south is conducive to making a crossing structure more conducive to travel of larger wildlife. Minimal landscape cover to the north. |
| Management recommendations | Increase diameter of culvert. Place entrance and exit further away from road. Barrier fencing. Sound dampening. Directional fencing to funnel wildlife toward larger culvert in this location. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 41212 |
| Survey Date | 03/26/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P119 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 175.242584228516 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Residential and agriculture on westbound side. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 5 feet |
| Height | 1 |
| Width | 1 |
| Length | 35 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | At residence on westbound side |
| Constraints | Yes |
| Describe constraint | Diameter of culvert, at one foot, is not conducive to travel of larger wildlife. Traffic noise. Culvert entrance at exit adjacent to road. Crossing at grade for larger wildlife. Culvert access openings adjacent to road. |
| Evidence of other animals? | No |

| | |
|----------------------------------|---|
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire in disrepair parallel to eastbound side. 6 foot wooden horse fence and 5 foot metal fence parallel to westbound side. Multiple fenced areas on property to the north. |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound

| | |
|----------------------------|---|
| Comments | This location not conducive to wildlife travel due to constraints mentioned above, although landscape to south would offer an excellent corridor. |
| Management recommendations | Barrier fencing. Wildlife crossing signs. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 41230 |
| Survey Date | 03/26/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P119 North |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 176.967391967773 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 5 |
| Width | 12 |
| Length | 25 |
| Structure floor material | Concrete |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Seasonal water in stream through underpass area. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 5 foot barbed wire parallel to road on eastbound side. |
| Consider for camera? | Yes |
| Camera suggestions | At north and south entrances to underpass. |



eastbound



eastbound



eastbound



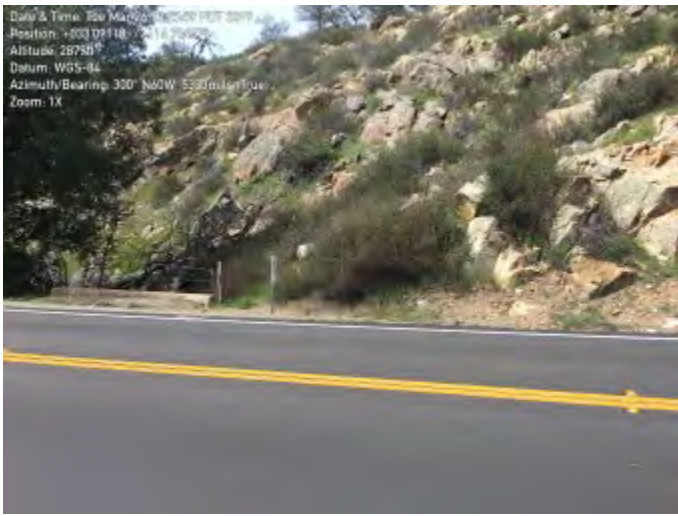
eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



camera C22



camera C22

| | |
|----------------------------|---|
| Comments | This location provides an excellent crossing structure beneath 78. This small bridge, which actually looks like a large box culvert, allows passage of a stream beneath 78. Riparian environment to north and south. There is a ranch to the south, but no structures, etc. near the crossing location. Best crossing potential in this vicinity. |
| Management recommendations | Traffic noise abatement. Barrier fencing. Directional fencing to funnel wildlife to this undercrossing. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 41207 |
| Survey Date | 03/26/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P120 |
| Drop Point (Lat/Long) | |
| Latitude | 33.067642 |
| Longitude | -116.729087 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 40 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | North side approach to road, although natural chaparral terrain with good cover, is approx. 60 degree upslope which climbs at least 100 feet from valley below to north shoulder of 78 westbound. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | No crossing structure, hence crossing at grade. Steep approach from north. Traffic noise. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to eastbound 78. |
| Consider for camera? | No |



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound

Comments

This location lies on a natural, although very steep section of chaparral along 78. To the south, there is landscape conducive to crossing. However, the approach from the north is very steep. There is no crossing structure to facilitate crossing here. The steep embankment on eastbound side makes placement of a culvert difficult. Road is wider here due to a passing lane both eastbound and westbound. To the west of this location, Approximately 200 meters, there is a large culvert with vertical access on the eastbound side which empties on the westbound side. This culvert drops approx. 50 feet to the bottom of embankment on westbound side. This culvert is not an adequate crossing structure as is, but has potential for modification and improvement for wildlife use. As is, I did not consider it worth creating a new survey for.

Management recommendations

Barrier fencing. Rumble strip. Wildlife crossing signs. Consider modification of culvert at location approximately 200 meters to the west of P120.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 40719 |
| Survey Date | 03/20/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P123 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 173.590728759766 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Agricultural and residential development on westbound side. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Westbound due to development and agricultural land. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | No crossing structure. Residential development and agricultural land to the north. Blind curve. Traffic noise. Crossing at grade. |
| Evidence of other animals? | No |
| Fencing present? | Yes |

| | |
|----------------------------------|--|
| Describe fencing type and height | Multiple types associated with development on westbound side. Also 4 foot barbed wire in disrepair parallel to westbound 78 between stream and road. |
| Consider for camera? | No |



westbound



westbound



westbound Note stream paralleling SR 78 between road and development to the north.



westbound



westbound



eastbound



eastbound



eastbound.



eastbound

Comments

Not a viable crossing location due to lack of crossing structure and development to north. Steep uphill slope on eastbound side precludes culvert construction here. Stream/drainage which is present all along westbound 78 through this area also present here.

Management recommendations

Barrier fencing. Note presence of stream as possible conduit to better crossing location.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 40698 |
| Survey Date | 03/20/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P124 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 174.076110839844 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Farm and agricultural land to the north. |
| Landscape and veg structure suggest corridor | No |
| Describe limitation of landscape and veg and which side of road | Development as noted to the north. Approx. 75 degree 50 foot high embankment rises from eastbound 78 at this location. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 6 feet |
| Height | 1 |
| Width | 1 |
| Length | 45 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Narrow diameter of culvert with no through and through visibility. High steep slope on eastbound side. Development on westbound side. Intersecting traffic on Southerland Dam Rd. Crossing currently at grade. Traffic noise. |

Blind curve.

| | |
|----------------------------------|--|
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | Multiple types and heights associated with development to the north. |
| Consider for camera? | No |



westbound



westbound. Large culvert opening to the right allows stream to pass beneath Sutherland Dam RD. It does not pass beneath SR 78



westbound



westbound



westbound



westbound. This is Southerland Dam Road heading north from SR 78



westbound



westbound



westbound Note steep embankment on eastbound side



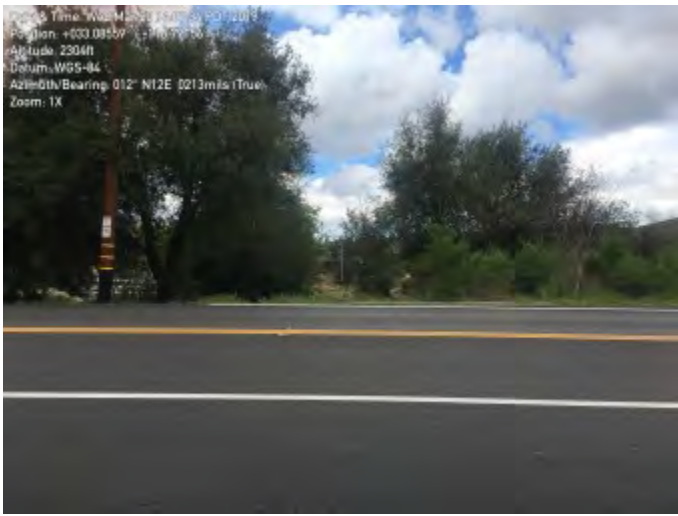
westbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound

Comments

For reasons noted under constraints, this is a poor crossing location with no viable crossing structure. Culvert on westbound side drains into same stream which runs parallel to 78 throughout this several mile section.

| | |
|----------------------------|--|
| Management recommendations | Not amenable to culvert expansion on eastbound side due to presence of large embankment which encroaches on edge of road. Consider use of stream which parallels westbound 78 as a conduit to more ideal crossing location. Barrier fencing. |
|----------------------------|--|

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 40693 |
| Survey Date | 03/20/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P125 |
| Drop Point (Lat/Long) | |
| Latitude | 33.082308 |
| Longitude | -116.795303 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 5 feet |
| Height | 1 |
| Width | 1 |
| Length | 35 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Narrow diameter of culvert. Can't see through culvert. Traffic noise. Crossing at grade. Culvert access is vertical and adjacent to road on eastbound side. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 3 foot barbed wire in disrepair parallel to westbound 78. No fencing on eastbound side. |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound Looking toward stream into which this culvert drains.
Stream parallels SR 78



westbound



westbound



westbound



eastbound Culvert entrance



eastbound



eastbound



eastbound



eastbound

| | |
|----------------------------|--|
| Comments | Landscape to north and south makes this an excellent crossing location. However, this location is not currently viable. Heavy and high speed traffic preclude safe crossing at grade. Culvert is narrow diameter and not accessible to entry on eastbound side. |
| Management recommendations | Rumble strip, wildlife crossing signs, barrier fencing. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 40612 |
| Survey Date | 03/19/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P126 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 171.944442749023 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 5 feet |
| Height | 1 |
| Width | 1 |
| Length | 30 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Narrow culvert diameter. Crossing at grade. Blind curve. Culvert entrance on eastbound side is vertical and covered. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |



westbound



westbound culvert exit viewed from above



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound

| | |
|----------------------------|---|
| Comments | Crossing structure is inaccessible on eastbound side due to being vertical and covered. Landscape to north and south conducive to wildlife travel. Stream parallels westbound 78 in large natural drainage running to the west. |
| Management recommendations | Barrier fencing. Wildlife crossing signs. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 40607 |
| Survey Date | 03/19/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P127 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 172.824966430664 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 35 feet. Turnoff lane to Rancho Santa Theresa Rd increases width of road here. |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | RV Park on westbound side. Very low density rural homes on eastbound side. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 10 feet |
| Height | 2 |
| Width | 2 |
| Length | 45 |
| Structure floor material | Concrete |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | RV Park to the north. None directly at crossing location. |
| Constraints | Yes |
| Describe constraint | Traffic noise. Crossing at grade for larger wildlife due to smaller diameter of culvert. Poor access to culvert exit on westbound side. Steep, heavily vegetated slope from westbound culvert to drainage below. Barbed wire cage in front of westbound culvert exit. |
| Evidence of other animals? | No |

| | |
|----------------------------------|--|
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to eastbound 78 running west from culvert. No fencing to the east. |
| Consider for camera? | Yes |
| Camera suggestions | At entrance of culvert on eastbound side. Good tree for attachment of camera to face into and away from culvert. |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



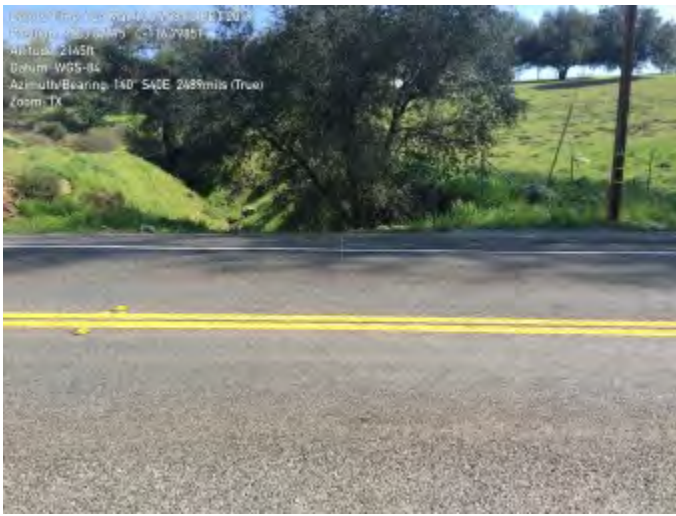
westbound



westbound



westbound



westbound



westbound



westbound



camera DOC 2



camera DOC 2

Comments

Culvert access good on eastbound side with natural landscape approach from the south. Culvert diameter small at 2 feet. Culvert exit is metal pipe on westbound side. It lies in an area inaccessible to photography. Exits into steep and heavily vegetated area on

westbound side. Unable to visualize General landscape approach from the north. May consider directing wildlife to a better wildlife crossing using the stream which runs parallel to westbound 78 as a corridor.

Management
recommendations

Increase diameter of existing culvert. Improve approach to culvert exit on westbound side by clearing some vegetation and making the currently steep approach up from the creek drainage more level. Barrier fencing to prevent crossing at grade. Directional fencing. Consider using westbound Stream drainage for directional purposes as noted in comments.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 40603 |
| Survey Date | 03/19/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P128 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 173.515533447266 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | RV Park on westbound side |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 6 feet |
| Height | 3 |
| Width | 3 |
| Length | 30 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Unknown |
| Constraints | Yes |
| Describe constraint | Traffic noise. RV Park to the north. Mildly difficult access to culvert opening on westbound side. It is currently fenced off with barbed wire and has an uphill slope with large boulders on the approach. Crossing at grade for larger wildlife. Blind corner. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trail. |

| | |
|----------------------------------|---|
| Fencing present? | Yes |
| Describe fencing type and height | Barbed wire "cage" over westbound culvert opening. 5 foot barbed wire to the east and parallel to eastbound side of 78. |
| Consider for camera? | Yes |
| Camera suggestions | At culvert opening on westbound side and eastbound side. |



westbound



westbound



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



camera 16



camera 16

Comments

Culvert diameter, at 3 feet, too small for larger wildlife, but conditions are amenable to enhancement of this conduit by increasing diameter of existing culvert. Blind corners here. Residential and commercial structures on the westbound side are moderate

constraint. Landscape conducive to transit on eastbound side.

Management
recommendations

Increase diameter of culvert and improve access to culvert exit on westbound side.
Barrier fencing. Directional fencing to funnel wildlife to this widened culvert and around
northside structures.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 40606 |
| Survey Date | 03/19/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P129 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 173.315826416016 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | RV Park on westbound side. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 5 feet to 10 feet |
| Height | 2 |
| Width | 2 |
| Length | 40 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | In RV Park on Westbound side. This is probably minimal at the crossing location. |
| Constraints | Yes |
| Describe constraint | Traffic noise. Blind curve. Crossing at grade for larger wildlife. Current narrow diameter of culvert is a barrier to larger wildlife. |
| Evidence of other animals? | No |
| Fencing present? | No |



eastbound



eastbound



eastbound



eastbound



eastbound.



eastbound



eastbound



westbound



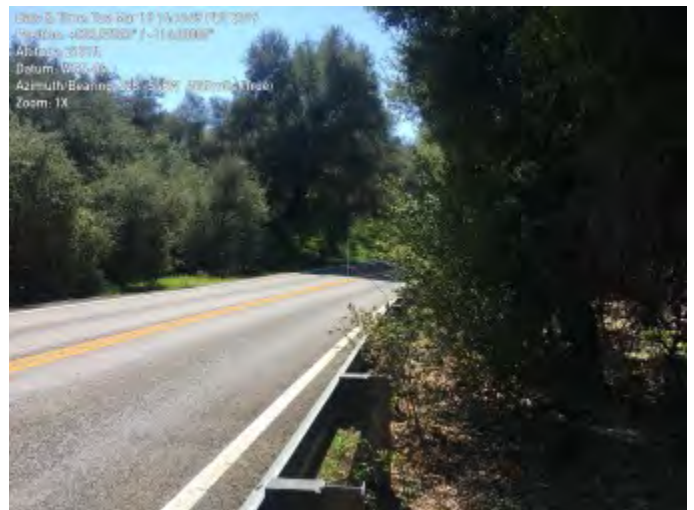
westbound



westbound



westbound



westbound



stream flowing parallel to SR 78 north of road

Comments

Proximity of RV Park and associated commercial buildings is a constraint. Culvert is small in diameter. Outlet into stream on westbound side. This could act as travel path for wildlife moving parallel to 78 to better conduits such as P137. This would enable bypass of RV Park lying to the north. Unable to take photo from the northwest of this location along the road due to traffic and access.

Management recommendations

Increase diameter of culvert. Barrier fencing. Directional fencing to funnel wildlife into eastbound entrance and to direct wildlife east and west along creekbed which lies on westbound side.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 40505 |
| Survey Date | 03/18/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P130 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 171.606658935547 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | 15 steep uphill embankment on eastbound side. Large stream and RV Park on westbound side. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 3 feet |
| Height | 1 |
| Width | 1 |
| Length | 30 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Patrons at RV Park camping on westbound side. |
| Constraints | Yes |
| Describe constraint | Traffic noise. RV Park, vehicles, inhabitants. Crossing location approached from east and west by blind corners. Crossing at grade. Steep uphill bank on eastbound side of road. Narrow diameter of culvert. |
| Evidence of other animals? | No |

| | |
|----------------------------------|---|
| Fencing present? | Yes |
| Describe fencing type and height | 5 foot barbed wire in disrepair parallel to road on eastbound side. |
| Consider for camera? | No |



eastbound culvert entrance



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound

Comments

Large stream approx. 50 feet wide on westbound side. Although larger due to recent rains, would preclude crossing here. Beyond the RV Park to the north and steep embankment to south, natural landscape conducive to wildlife travel. Open Culvert with

of one foot diameter on westbound side. Vertical access only to culvert on eastbound side. Not amenable to wildlife transit.

| | |
|----------------------------|--|
| Management recommendations | Barrier fencing to prevent crossing here. Wildlife crossing signs. Directional fencing to funnel wildlife toward P |
|----------------------------|--|

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 40506 |
| Survey Date | 03/18/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P131 |
| Drop Point (Lat/Long) | |
| Latitude | 33.074169 |
| Longitude | -116.803117 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | RV Park on westbound side. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 3 feet |
| Height | 1 |
| Width | 1 |
| Length | 30 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Some presence probable on westbound side at RV Park. |
| Constraints | Yes |
| Describe constraint | Traffic noise. Blind curves from both east and west. Small diameter of culvert. Can't see through culvert. Some habitation in RV Park on westbound side. Crossing at grade. Heavy traffic. |
| Evidence of other animals? | No |

| | |
|----------------------------------|---|
| Fencing present? | Yes |
| Describe fencing type and height | 3 foot barbed wire in major disrepair parallel to westbound side of 78. 4 foot barbed wire in disrepair parallel to eastbound 78. |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound



eastbound vertical culvert entrance



eastbound



eastbound



eastbound



eastbound

Comments

Good landscape corridor to north and south. I would expect only minor constraint from RV Park at this location. Culvert too narrow for wildlife transit, and cannot be entered at all on eastbound side. Currently dangerous crossing location.

Management recommendations

Barrier fencing. Wildlife crossing signs. Directional fencing to direct wildlife toward a better crossing location at P 137

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 40178 |
| Survey Date | 03/13/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P132 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 172.173889160156 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Private property to north. Ramona Oaks RV Resort. Beyond the paved area at the entrance to the RV Park is landscape which is conducive to crossing. Landscape character is conducive to crossing on the south side of road here. |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | Yes |
| Describe human presence potential | In RV Park to the north. |
| Constraints | Yes |
| Describe constraint | Traffic noise. RV Park. Crossing currently at grade, with no viable crossing structure in place. Blind corners to east and west. |
| Evidence of other animals? | No |
| Fencing present? | No |

Photos



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound

Comments

No crossing structure and presence of an RV Park on westbound side of 78 make this a poor crossing location. This is a very busy section of the road, and this location is approached by blind corners from each direction. Best crossing location in this vicinity is at P137. There is a vertical drain on the eastbound shoulder. It drops down and presumably drains out to north side culvert which passes parallel to 78 beneath the entrance road to RV Park. This culvert does not pass under 78.

Management recommendations

Hill rises fairly steeply from the roadside to the south. This would preclude easy construction of a culvert type undercrossing.
Wildlife crossing signs. Rumble strip. Barrier fencing. Directional fencing to funnel wildlife to undercrossing at P137.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 40512 |
| Survey Date | 03/18/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P133 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 172.802169799805 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | <i>Meleagris gallopavo</i> / Wild turkey |
| Structure type | Round culvert |
| Culvert distance below road | 3 feet |
| Height | 1 |
| Width | 1 |
| Length | 30 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing at grade. Traffic noise. Small diameter of culvert not conducive to travel for larger wildlife. Steep downhill embankment from culvert exit on westbound side of 78. Blind curve to the west. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |



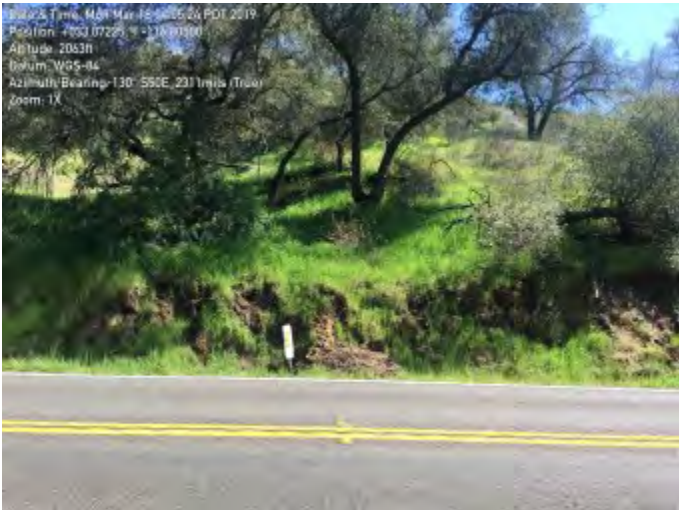
westbound



westbound



westbound



westbound



westbound



westbound



eastbound



esstbound



eastbound



eastbound



eastbound



eastbound

Comments

Landscape to north and south conducive to wildlife travel, but current one foot diameter culvert is inadequate for transit. Hillside on south side of road approaches closely to edge of road, allowing minimal room to increase diameter and depth of culvert. Location

P137 to the south remains the most currently viable crossing location. P133 would be a secondary consideration if culvert diameter increased. Two wild turkeys crossed the road during my survey.

Management
recommendations

Increase culvert diameter. Otherwise barrier fencing. Wildlife crossing signs. Directional fences to funnel wildlife toward P137 to the south.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 40515 |
| Survey Date | 03/18/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P134 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 173.262390136719 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | <i>Meleagris gallopavo</i> / Wild turkey |
| Structure type | Round culvert |
| Culvert distance below road | 4 feet |
| Height | 1 |
| Width | 1 |
| Length | 30 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Potential |
| Describe constraint | Private residence on westbound side. Narrow diameter of culvert. Steep drop off at culvert exit on westbound side. Traffic noise. Blind corners to east and west. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple game Trails. Wild turkeys. |
| Fencing present? | No |
| Consider for camera? | No |



westbound culvert exit to steep rocky downslope



westbound



westbound



westbound



westbound



westbound



westbound



eastbound culvert entrance



eastbound



eastbound



eastbound

Comments

Narrow diameter of culvert precludes use by larger wildlife. Although there is private residence to the north, landscape to the northeast is amenable to transit. Because of proximity of private property, may not be a good location to consider improving culvert

diameter and access. Drop off on westbound side into steep gulley before flattening out. P137 appears to be a better crossing location in this area.

Management
recommendations

Barrier fencing. Directional fencing to funnel wildlife toward P137. Wildlife crossing signs. See comments regarding enhancement of culvert.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 40523 |
| Survey Date | 03/18/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P135 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 172.332107543945 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Private property on westbound side. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | Yes |
| Describe human presence potential | Residential property to the north. |
| Constraints | Yes |
| Describe constraint | Crossing at grade. Blind corner. Residential property on westbound side. Traffic noise. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple game Trails. |
| Fencing present? | Yes |

| | |
|----------------------------------|--|
| Describe fencing type and height | Multiple heights and types associated with properties on westbound side. |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound

Comments

Due to absence of crossing structure and proximity of private property, this is not a good crossing location.

Management recommendations

Barrier fencing. Wildlife crossing signs. Directional fencing to funnel wildlife toward P137.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 40170 |
| Survey Date | 03/13/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P136 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 172.933486938477 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Private fenced property residential development to the south. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Rural development and fencing south side. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing here at grade. On blind corner from east and west. Traffic noise. Private property to the south. |
| Evidence of other animals? | No |
| Fencing present? | Yes |

| | |
|----------------------------------|---|
| Describe fencing type and height | Six foot chain link parallel to road on eastbound side. Fencing around private property to the south. |
| Consider for camera? | No |



westbound



westbound



westbound



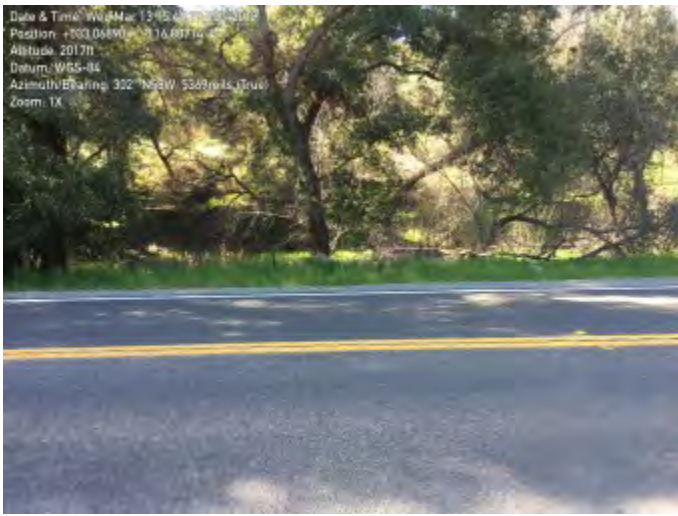
westbound



westbound



eastbound



eastbound



eastbound



eastbound

Comments

No crossing structure here. A good crossing location, P137, is approx. 200 feet to the west. Natural landscape conducive to wildlife travel to the north of this location. Stream which leads to P137 parallels the road here.

Management recommendations

Barrier fencing to prevent crossing here. Directional fencing to funnel wildlife toward P137. Wildlife crossing signage.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 40155 |
| Survey Date | 03/13/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P137 |
| Drop Point (Lat/Long) | |
| Latitude | 33.068118 |
| Longitude | -116.808019 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 7 |
| Width | 20 |
| Length | 40 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Some water in stream. Probably passable except after heavy rain. Some human presence. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple tracks in mud below bridge. |
| Fencing present? | No |
| Consider for camera? | Yes |
| Camera suggestions | On either side of bridge, eastbound and westbound. |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



camera BHD161



camera BHD161

Comments

Graffiti present. No evidence of ongoing human presence or encampment. There are multiple footprints below bridge. There is a stream running beneath bridge, but only minor flow a few days after rain. Natural riparian environment north and south of bridge.

Good corridor landscape north and south.

Management
recommendations

Barrier fencing along road here to prevent crossing at grade. Directional fencing and trails to funnel wildlife under bridge. Sound dampening.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 38804 |
| Survey Date | 02/27/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P170 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 169.696823120117 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | <i>Meleagris gallopavo</i> / Wild turkey |
| Structure type | Round culvert |
| Culvert distance below road | 3 feet |
| Height | 1 |
| Width | 1 |
| Length | 35 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Residential property on eastbound side. Small diameter of culvert not amenable to larger wildlife travel. Traffic noise. This site is at blind corner from the east. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Wild turkeys nearby. |
| Fencing present? | No |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound

Comments

On westbound side, drainage drops to streambed which parallels road. Good wildlife corridor to the north of this location.

| | |
|----------------------------|--|
| Management recommendations | It may be possible to increase diameter of culvert to allow transit of larger wildlife. If so, then barrier fencing and directional fencing. Otherwise just barrier fencing and wildlife crossing signs. |
|----------------------------|--|

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 38808 |
| Survey Date | 02/27/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P171 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 170.795333862305 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Very steep drop off on north side of westbound lane. Beyond this to the north is good corridor. |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 2 feet |
| Height | 1 |
| Width | 1 |
| Length | 40 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | On westbound side, culvert exits approx. 10 feet above steep drop off. Culvert too narrow for transit of larger wildlife. Crossing at blind curve from both directions. Traffic noise. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound

Comments

Due to position of westbound culvert exit, unable to photograph from front. Culvert entrance blocked by debris on eastbound side.

Management

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 38815 |
| Survey Date | 02/27/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P172 |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | |
| Landscape and veg structure suggest corridor | |
| Other species observed | |
| Structure type | |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | |
| Constraints | |
| Evidence of other animals? | |
| Fencing present? | |
| Consider for camera? | No |
| Photos | None |
| Comments | Unable to survey this location. There is no shoulder here, nor is there anywhere close to park. |
| Management recommendations | |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 38705 |
| Survey Date | 02/26/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P173 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 168.927658081055 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 10 feet on eastbound side to 30 feet on westbound side. |
| Height | 4 |
| Width | 4 |
| Length | 50 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Cannot see through either of these culvert openings on eastbound side, nor westbound side. Traffic noise. Steep decline in twin culverts from eastbound side to westbound side. Steep bank of rip rap at culvert exit on westbound side. Traffic noise. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | Yes |
| Camera suggestions | At culvert entrance and exit. |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



camera view JO25



camera JO 25

Comments

There are twin parallel 4 foot diameter culverts here. Dropping from south to north at steep angle. Good travel corridor to the north and south.

Management recommendations

Make culverts more level. Increase diameter of culverts. Barrier fencing. Directional fencing.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 38704 |
| Survey Date | 02/26/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P174 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 130.610748291016 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Lemon grove on north side of 78 here. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Ag land to the north. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 2 feet |
| Height | 1 |
| Width | 1 |
| Length | 30 |
| Structure floor material | Concrete |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Culvert diameter and location right next to road. Traffic noise. Lemon grove to north. |
| Evidence of other animals? | No |
| Fencing present? | Yes |

| | |
|----------------------------------|--|
| Describe fencing type and height | 5 foot barbed wire parallel to road approx. 20 feet from eastbound side. 4 foot chain link parallel to westbound side of road. |
| Consider for camera? | No |



eastbound



eastbound



eastbound



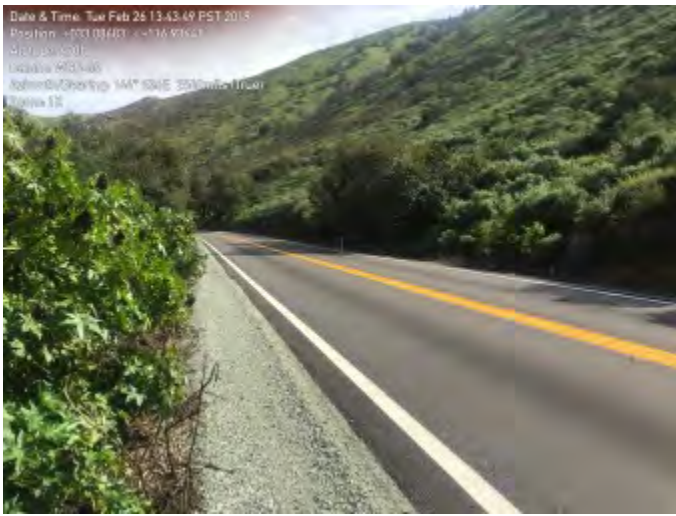
eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound

Comments

This is a very narrow diameter culvert which begins and ends adjacent to the road and is only about one foot beneath 78. Landscape character natural scrub steep hillside to the south conducive to wildlife travel. Lemon grove to north.

| | |
|----------------------------|---|
| Management recommendations | Wildlife crossing sign. Barrier fencing to prevent crossing here. The steep nature of terrain dropping to the south side of the road and flat nature of terrain to the north tend to preclude enhancement of culvert. |
|----------------------------|---|

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 38696 |
| Survey Date | 02/26/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P175 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 129.853469848633 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 35 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 40 |
| Width | 200 |
| Length | 40 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Graffiti present indicating some human presence, but no evidence of encampments or ongoing human presence. Agricultural land to northeast, cemetery to northwest. Ag land to southeast. Residential property to southwest. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Large number of animal tracks in sandy streambed beneath bridge. Traveling in both directions. |
| Fencing present? | Yes |
| Describe fencing type and height | 3 foot barbed wire in disrepair parallel to road on northeast side. Horse fencing associated with private property to northwest. Multiple types and directions of fence to |

southeast associated with private property and ag land.

| | |
|----------------------|--|
| Consider for camera? | Yes |
| Camera suggestions | Both sides of bridge facing in and out. Possibly away from bridge in drainage. |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



camera view SANDAG 10



camera SANDAG 10

Comments

This is a long bridge, supported by two abutments, creating three areas of passage beneath. One large central area over drainage, and two smaller areas to the sides. Agricultural property to southeast. Private property to southwest. (See constraints). Although property on each side of this drainage is lightly developed, the drainage and associated corridor is quite wide. Many animal tracks in both directions indicate that this may be a well travelled corridor. This is Santa Ysabel Creek.

Management recommendations

Barrier fencing. Directional fencing. Sound dampening.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 38694 |
| Survey Date | 02/26/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P176 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 131.490966796875 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 35 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 35 |
| Width | 180 |
| Length | 45 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Some human presence, although no evidence of ongoing human encampment. Traffic noise. Vineyard/agricultural property to northeast. Private road to northwest. Large agricultural presence parallel to road on south side. However, drainage continues to parallel the road on that south side, which may allow corridor travel beyond that agricultural property. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple coyote tracks beneath bridge traveling east/west. Multiple other animal tracks. |
| Fencing present? | Yes |

| | |
|----------------------------------|--|
| Describe fencing type and height | 3 foot barbed wire at west end of eastbound side running southward from edge of bridge. 3 foot barbed wire on southeast bridge corner running parallel to road approx. 50 feet. 5 foot barbed wire parallel to road on southwest side. |
| Consider for camera? | Yes |
| Camera suggestions | Beneath bridge north and south. |



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



camera SANDAG 11



camera view SANDAG 11

Comments

This is a very large overpass. One concrete abutment separates area beneath bridge into two passage areas. The eastern area beneath bridge much more open and spacious than western segment. There is graffiti beneath bridge indicating at least periodic human

presence. No encampments visualized. Good riparian approach from north and south. Although drainage here is open streambed, there is good heavy brush on both sides of streambed. This location is Guejito Creek.

| | |
|----------------------------|--|
| Management recommendations | Barrier fencing. Noise reduction. Directional fencing. |
|----------------------------|--|

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 42665 |
| Survey Date | 04/09/2019 |
| User | Rich Codington |
| Highway name | 78 |
| Location | P177 |
| Drop Point (Lat/Long) | |
| Latitude | 33.098957 |
| Longitude | -117.017383 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 50 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 8 |
| Width | 180 |
| Length | 50 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Very thick vegetation growing in riverbed north and south of bridge. Standing water both sides of bridge also. Graffiti indicates some human presence, but no evidence of ongoing human encampments. Water presence may be ongoing. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Rodent scat. Possible large animal bedding areas in surrounding grasses. |
| Fencing present? | Yes |
| Describe fencing type and height | 5 ft. Barbed wire on westbound side parallel to road. |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound

Comments

Three lane road here. Two westbound lanes. One eastbound lane. Swampy landscape to north and south. May be primarily due to end of heavy rainy season. Thick vegetation under and north and south of bridge with areas of standing water. Ranch land to northwest of bridge. With some clearing of vegetation to open up pathway, this bridge undercrossing may be an excellent crossing location.

Management recommendations

Open up path to and from bridge by reducing plant/tree growth.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 23553 |
| Survey Date | 09/04/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P29 |
| Drop Point (Lat/Long) | |
| Latitude | 33.293328 |
| Longitude | -117.223607 |
| Speed | 0.479999989271164 m/s |
| Direction | 113.823722839355 degrees from N |
| Altitude | 50.2216724929425 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 275 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 7 |
| Width | 125 |
| Length | 150 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Easy access from road with no exclusionary fencing on westbound side. Evidence of human habitation. Trash, blankets, fire ring. Graffiti present. Footprints all areas under bridge. |
| Constraints | Yes |
| Describe constraint | Human presence. Moderate traffic noise. River flow during rain. Residential area to northwest of bridge. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Animal tracks under bridge in riverbed. |
| Fencing present? | Yes |

| | |
|----------------------------------|---|
| Describe fencing type and height | 5 foot chain link to northwest acting as boundary for private property. 8 foot chain link on eastbound side running west from west end of bridge. 8 foot chain link running east from east end of bridge. These 8 foot fences are only on eastbound side. New fencing in good repair. |
| Consider for camera? | Yes |
| Camera suggestions | At approach areas under bridge eastbound and westbound sides. |



WB



WB



WB



WB



WB



WB



WB



WB



WB



WB



WB



EB



EB



EB



EB



EB



EB



EB



EB



EB

Comments

Good vegetative cover while remaining passable on north and south sides of bridge. Loud traffic noise at approaches, but is moderated under bridge. Human presence significant here, and would appear to be the most significant deterrent to wildlife presence at this location.

Management recommendations

Augment barrier fencing on eastbound and westbound sides. Add barrier/deterrent to human presence. Consider sound insulation.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 22665 |
| Survey Date | 08/22/2018 |
| User | Rich Codington |
| Highway name | Other |
| Highway number if not listed | Flowerwood Lane/76 |
| Location | P33 |
| Drop Point (Lat/Long) | |
| Latitude | 33.314162 |
| Longitude | -117.197389 |
| Speed | 0.639999985694885 m/s |
| Direction | 341.785095214844 degrees from N |
| Altitude | 66.1368958942992 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 35 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Golf course to the north. Hiway 76 to the south, but there is second undercrossing there. |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 6 |
| Width | 45 |
| Length | 75 |
| Structure floor material | Concrete |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Golf course and residential to the north. Hwy 76 to south. Traffic noise. Traffic on Flowerwood Lane is low volume. |
| Evidence of other animals? | No |
| Fencing present? | Yes |

| | |
|----------------------------------|---|
| Describe fencing type and height | 3 foot 2 rail wood fence parallel to and south of Flowerwood. 8 foot chain link north of and parallel to 76 WB. |
| Consider for camera? | Yes |
| Camera suggestions | At underpass entrances |



WB



WB



WB



WB



WB



WB



WB



WB



EB



EB



EB



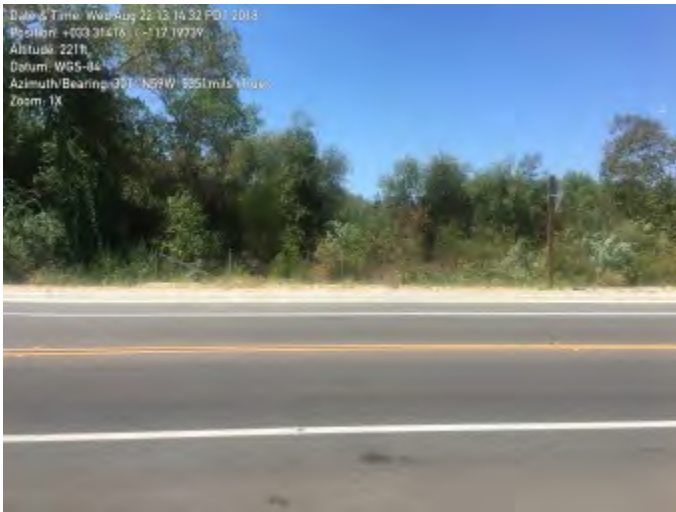
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EB

Comments

There are 2 bridges in this location. The first, to the north, crosses a drainage area under Flowerwood Lane. This is P33. . The undercrossing of this bridge consists of three 15 foot sections. Two of these are 1/3 filled with dirt. The Flowerwood undercrossing to the north leads to a second bridge/undercrossing to the south. This second undercrossing passes beneath 76. It will be designated P33a. Golf course 50 meters to the north of the Flowerwood crossing.

Management recommendations

Barrier fencing. Directional fencing.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 22696 |
| Survey Date | 08/22/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P33A |
| Drop Point (Lat/Long) | |
| Latitude | 33.31384 |
| Longitude | -117.197282 |
| Speed | 0.0 m/s |
| Direction | 153.878356933594 degrees from N |
| Altitude | 62.7853554730243 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 4 lane separated |
| Estimated width of road from one pavement edge to the other | 100 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Golf course and residential area to the north. |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 6 |
| Width | 35 |
| Length | 150 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Need to pass beneath P33 bridge to the north also to complete this crossing of two roads. Golf course to north. Traffic noise. Some human presence. No evidence of human habitation. Water during rainfall. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple tracks under bridge. Coyote scat. |
| Fencing present? | Yes |

| | |
|----------------------------------|---|
| Describe fencing type and height | 8 foot chain link parallel WB 76. 8 foot chain link parallel to Eastbound 76. |
| Consider for camera? | Yes |
| Camera suggestions | At North and South entrances |

Photos



WB



WB



WB



WB



EB



EB



EB



EB



WB



WB



WB



WB



WB



EB



EB



EB

Comments

This crossing is south of P33 approx. 50 meters. It is an overpass and corresponding undercrossing of 76. It will be called P33a. South of here is San Luis Rey River drainage. Traffic noise under bridge is mild to moderate.

Management recommendations

Barrier fencing to east and west. Directional fencing from south.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 19113 |
| Survey Date | 07/23/2018 |
| User | Rich Codington |
| Highway name | Old 395 |
| Location | P34 |
| Drop Point (Lat/Long) | |
| Latitude | 33.32072 |
| Longitude | -117.160272 |
| Speed | 0.0 m/s |
| Direction | 267.453765869141 degrees from N |
| Altitude | 76.462102975053 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 40 feet |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | West of northbound 395 is a large post-burn area of approx. 1/4 square mile. This east side barren area is bordered to the north by Dulin Road, to the east by a high steep and barren embankment which rises to meet southbound I-15. The southern extent of this area approaches site Crossing is at grade. 200 meters north of here is the corridor underneath the 395 overpass. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | See above comments regarding post burn area on east side of 395. The western segment of this location consists of residential and commercial structures. However just to the north is undercrossing at P35. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | Yes |
| Describe human presence potential | Road traffic. |
| Constraints | Yes |

| | |
|----------------------------------|---|
| Describe constraint | Road traffic and noise. Crossing here at grade. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 5 foot high barbed wire 100 feet from southbound side running parallel to road. Extends from crossing site north to San Luis Rey River. It is in disrepair. There is fencing around parking area to the south which extends parallel to road toward mobile home park approx. 1/4 mile to south. |
| Consider for camera? | No |



NB



NB



NB



NB

Date & Time: Mon Jul 23 12:19:04 PDT 2018
Position: -003.32062 / -117.16919
Altitude: 226ft
Bearing: WGS-84
Azimuth Bearing: 330° NDBW 522mils True
Zoom: 1X



NB

Date & Time: Mon Jul 23 12:19:30 PDT 2018
Position: -003.32067 / -117.16919
Altitude: 226ft
Bearing: WGS-84
Azimuth Bearing: 330° NDBW 522mils True
Zoom: 1X



NB

Date & Time: Mon Jul 23 12:19:52 PDT 2018
Position: -003.32062 / -117.16919
Altitude: 226ft
Bearing: WGS-84
Azimuth Bearing: 330° NDBW 522mils True
Zoom: 1X



NB

Date & Time: Mon Jul 23 12:22:30 PDT 2018
Position: -003.32067 / -117.16919
Altitude: 226ft
Bearing: WGS-84
Azimuth Bearing: 330° NDBW 522mils True
Zoom: 1X



NB

Date & Time: Mon Jul 23 12:26:25 PDT 2018
Position: -003.32062 / -117.16926
Altitude: 226ft
Bearing: WGS-84
Azimuth Bearing: 157° EDBW 100mils True
Zoom: 1X



SB

Date & Time: Mon Jul 23 12:26:42 PDT 2018
Position: -003.32063 / -117.16926
Altitude: 226ft
Bearing: WGS-84
Azimuth Bearing: 273° NDBW 140mils True
Zoom: 1X



SB



SB



SB



SB



SB

Comments

Open/barren landscape east side. Embankments rising to meet 395 on southbound and northbound sides are 45 degree, decomposed granite, barren, rise approx. 30 ft. to road. Southbound side of this site is also post-burn area. Bordered on south and in close proximity to mobile home parking and golf course. Bordered on north by San Luis Rey River. This site approx. 200 south of P35.

Management recommendations

Exclusionary fencing to prevent wildlife from crossing here. Incorporate directional fencing to funnel wildlife to underpass crossing at P 35. Wildlife crossing signs along this area.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 19110 |
| Survey Date | 07/23/2018 |
| User | Rich Codington |
| Highway name | Old 395 |
| Location | P35 |
| Drop Point (Lat/Long) | |
| Latitude | 33.317368 |
| Longitude | -117.15186 |
| Speed | -1.0 m/s |
| Direction | 142.013824462891 degrees from N |
| Altitude | 26.3063354492188 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | <i>Lynx rufus</i> / Bobcat |
| Structure type | Bridge - single span |
| Height | 15 |
| Width | 150 |
| Length | 30 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | May be used for shelter. Many footprints. Graffiti present. |
| Constraints | Potential |
| Describe constraint | Construction area to north. This may be temporary. Potential heavy riverflow during rainy season. Human presence under bridge. Road noise. This corridor continues to the east through thick vegetation along the bed of the San Luis Rey River to a similar undercrossing of I-15. That location is site P36. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Bobcat was observed traveling from south to north under the 385 overpass here. It then turned and moved off to the east through the vegetation. Multiple animal tracks. Coyote and rodent scat. |

| | |
|----------------------------------|---|
| Fencing present? | Yes |
| Describe fencing type and height | 6 foot chain link approx. 60 feet from southbound side of overpass on north side of riverbed. Running parallel to highway and perpendicular to corridor. This appears to be part of enclosure for construction site at northwest of bridge. |
| Consider for camera? | Yes |
| Camera suggestions | Due to observation of active wildlife travel here, I would recommend camera placement under overpass. |



NB



NB



NB



NB



NB



NB



NB



NB



NB



NB



SB



SB



SB



SB



SB



SB



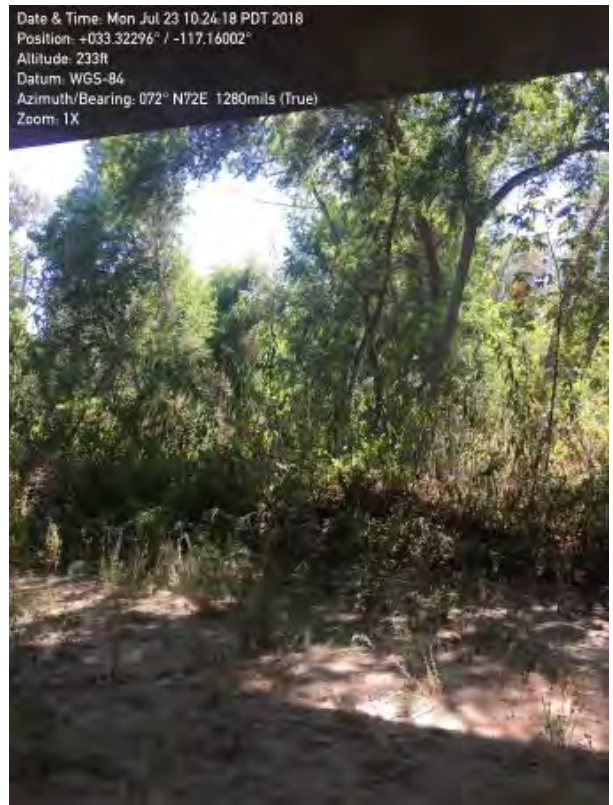
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SB



SB



SB



SB

Comments

As noted, active wildlife presence noted at this location. Presence of graffiti on columns under overpass. Relatively sparse vegetation under overpass, but thick vegetation on east and west side in the riverbed. Many human and animal tracks under bridge here. This is an east west crossing under the 395 bridge which crosses the San Luis Rey River.

Management recommendations

Directional fencing. Protective barriers/fencing on either side of corridor.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 18841 |
| Survey Date | 07/20/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | P36 |
| Drop Point (Lat/Long) | |
| Latitude | 33.324978 |
| Longitude | -117.158931 |
| Speed | 0.600000023841858 m/s |
| Direction | 124.953674316406 degrees from N |
| Altitude | 88.4132690429688 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - 2 spans |
| Height | 50 |
| Width | 250 |
| Length | 200 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Evidence of human encampments and graffiti. |
| Constraints | Potential |
| Describe constraint | Possible heavy river flow during rainy season. Hwy 395 undercrossing to the west. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | On north side there is 5 foot barbed wire fence in poor condition running parallel to undercrossing between I-15 and 395 approx 50 feet from riverbed. |

| | |
|----------------------|------------------------------|
| Consider for camera? | Yes |
| Camera suggestions | Under overpass 395 and I 15. |



NB



NB



NB



SB



SB



SB



SB



SB



SB



NB



NB



NB

Comments

This crossing goes underneath I-15 overpasses. (One northbound and one southbound.) It is in the bed of the San Luis Rey River. Currently very thick vegetation and trees with no water. Approx. 1/4 mile west of freeway is hwy 395. 2 lanes. Overpass here also above San Luis Rey River with same considerations here as the I-15 overpass. That 395 location is P35. This span is approx. 300 feet across river and 20 feet high. Graffiti and human footprints here. Both of these underpass areas have clear visibility from one side to the other. Again, with thick vegetation on each side and throughout undercrossing. Two lane well travelled road immediately south of and parallel to this undercrossing. This is Dulin Road. Housing development just south of this riverbed undercrossing on east side of I-15. Approx. 1/4 mile north of river is 76 which runs parallel to undercrossing. There is a construction site just north of undercrossing between I-15 and 395. A small dirt road borders undercrossing on north side.

Management recommendations

Constraint to limit human habitation. Possibly fencing running east west on either side of river beneath overpass. Directional fencing on either side of riverbed to funnel wildlife.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 17429 |
| Survey Date | 07/11/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | P37 |
| Drop Point (Lat/Long) | |
| Latitude | 33.318446 |
| Longitude | -117.155657 |
| Speed | 0.180000007152557 m/s |
| Direction | 271.993804931641 degrees from N |
| Altitude | 118.30224609375 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Housing development bordering north side of corridor on east side of I-15. Approx. 75 foot 45 degree downhill slope on east side which is primarily chaparral scrub with a few trees. On west side of I-15 is a 45 degree downward slope which drops approx. 75 feet to a 10 foot wide open concrete culvert running north south. This terminates onto a plain which appears to be drainage to San Luis Rey River. There appears to be no culvert opening which would pass under the I 15. There is residential development to the north and west of I-15 at P37. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple game Trails on east side downhill slope. Game Trails along open culvert on west side. |

| | |
|----------------------------------|---|
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot, 5 strand barbed wire at bottom of west side slope. This parallels the freeway and extends for some distance to north and south. See comments. On west side, there is 5 foot barbed wire fencing parallel to I-15 running several hundred yards to north and south approx. 200 yards west of I-15. |
| Consider for camera? | No |



NB



NB



NB



NB



NB



SB



SB



SB



SB



SB



SB



SB

Comments

Riparian area at bottom of slope east side of I-15. Seasonal water likely here. No sign of culvert all along base of western slope. There would appear to be good wildlife corridor extending to southeast from bottom of east side slope which would stay south of the

housing development. Current crossing is at grade. On west side, there is good canyon corridor access approx. 1/4 mile south of the evaluated crossing site. P37 access also terminates at I-15 with no bridge or culvert. Approx. 1/4 mile west of I-15 is a well travelled 2 lane road. This is 395. It traverses the hills west of I-15 at an elevation of approx 200 feet. From the road, a slope drops eastward down to culvert west of I-15, Then climbs back up steep slope to I-15. There is 5 foot barbed wire fence paralleling the east side of this 2 lane road. To the west there is residential development just north of P37. It appears a more suitable crossing area would be to the south of this location approx 1/4 mile. West side access is post fire.

Management
recommendations

As noted, there is a steep slope on east side of freeway with approx. 100+ foot drop in elevation from I-15. Since the slope on the west side of this I-15 crossing is equivalent, there would be potential for wildlife crossing. A large culvert placed underneath the I-15 just to the south of this location could be considered. That location bears further evaluation, as well as the corresponding location on the east side of I-15.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 19142 |
| Survey Date | 07/23/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P38 |
| Drop Point (Lat/Long) | |
| Latitude | 33.335403 |
| Longitude | -117.15317 |
| Speed | 0.0 m/s |
| Direction | 181.748153686523 degrees from N |
| Altitude | 81.6275024414062 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 4 lane together |
| Estimated width of road from one pavement edge to the other | 120 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 15 |
| Width | 75 |
| Length | 120 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Unknown |
| Constraints | Potential |
| Describe constraint | Water flow during rainy season. Traffic noise. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple domestic/ wildlife animal tracks beneath bridge oriented north-south. |
| Fencing present? | Yes |
| Describe fencing type and height | 6 foot chain link approx. 30 feet from road on south side. Extends 100 feet from west side of bridge paralleling road toward the west. Same style fence 25 feet from north side of road extending from bridge several hundred yards to west. Similar chain link on westbound side extending from bridge 50 meters to the east. Similar chain link fence |

extending east from bridge for about 200 meters. This is 10 meters from eastbound road.

| | |
|----------------------|---------------|
| Consider for camera? | Yes |
| Camera suggestions | Under bridge. |



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound

Date & Time: Mon Jul 23 14:05:13 PDT 2018
Position: -003 31512 -117.15318
Altitude: 269ft
Datum: WGS-84
Azimuth/Bearing: 217° N23W 599ft (true)
Zoom: 1X



westbound

Date & Time: Mon Jul 23 14:05:30 PDT 2018
Position: -003 33509 -117.15324
Altitude: 266ft
Datum: WGS-84
Azimuth/Bearing: 168° S14E 295ft (true)
Zoom: 1X



westbound

Date & Time: Mon Jul 23 13:58:03 PDT 2018
Position: -003 31533 -117.15320
Altitude: 279ft
Datum: WGS-84
Azimuth/Bearing: 141° S19E 2862m (true)
Zoom: 1X



westbound

Date & Time: Mon Jul 23 14:00:53 PDT 2018
Position: -003 31528 -117.15320
Altitude: 291ft
Datum: WGS-84
Azimuth/Bearing: 255° S75W 461m (true)
Zoom: 1X



eastbound 76

Date & Time: Mon Jul 23 14:05:13 PDT 2018
Position: +033.3350N -117.1532W
Altitude: 266ft
Datum: WGS-84
Azimuth/Bearing: 168° 51'4E 2951mils True
Zoom: 1X



eastbound

Date & Time: Mon Jul 23 14:05:13 PDT 2018
Position: +033.3350N -117.1532W
Altitude: 266ft
Datum: WGS-84
Azimuth/Bearing: 168° 51'4E 2951mils True
Zoom: 1X



eastbound

Date & Time: Mon Jul 23 14:05:13 PDT 2018
Position: +033.3351N -117.1531W
Altitude: 269ft
Datum: WGS-84
Azimuth/Bearing: 231° 1'23W 599mils True
Zoom: 1X



eastbound

Date & Time: Mon Jul 23 14:05:13 PDT 2018
Position: +033.3350N -117.1532W
Altitude: 266ft
Datum: WGS-84
Azimuth/Bearing: 168° 51'4E 2951mils True
Zoom: 1X



eastbound



eastbound

Comments

This location is approx. 25 meters east of the P38 GPS location. However it is a much more likely crossing area, and may be the intended location for P38. Area under bridge has minimal vegetation. Thick vegetation at either end of bridge. Some human footprints under bridge. Many animal tracks under bridge. Graffiti under bridge. Photos taken of animal tracks beneath bridge. There may be a culvert on north and south of 76 approx. 75 meters west of the Horse Ranch Creek bridge. However, it is inaccessible due to fencing at both sides of road. This location is at Horse Ranch Creek bridge. This creek continues to the southeast where it travels beneath another overpass which bridges a minimally travelled dead end paved road approx. 1/4 mile south of 76.

Management recommendations

Exclusionary fencing parallel to the highway on north and south sides of 76 to prevent crossing at grade here. Directional fencing funneling wildlife under the bridge at north and south. Wildlife crossing sign.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 17320 |
| Survey Date | 07/10/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | P39 |
| Drop Point (Lat/Long) | |
| Latitude | 33.406895 |
| Longitude | -117.164245 |
| Speed | 0.0 m/s |
| Direction | 17.2271022796631 degrees from N |
| Altitude | 336.378504942418 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | . Rainbow Glen Road is the crossing corridor path. It is an active two lane road which lies beneath northbound and southbound I15 lanes. Directly east of I15 is 395, also a barricade to this crossing. |
| Landscape and veg structure suggest corridor | No |
| Describe limitation of landscape and veg and which side of road | East side 395 and residential property. |
| Other species observed | |
| Structure type | Bridge - 2 spans |
| Height | 20 |
| Width | 55 |
| Length | 180 |
| Structure floor material | Concrete |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Active road |
| Constraints | Yes |
| Describe constraint | Highway 395 on east side. |

| | |
|----------------------------------|---|
| Evidence of other animals? | |
| Fencing present? | Yes |
| Describe fencing type and height | 6 foot chain link. Directional on both sides of undercrossing leading to 395. |
| Consider for camera? | No |



Northbound I15. crossing underneath I15 east-west is Rainbow Glenn Rd.



NB



Northbound



looking east from NB I15 to intersection of Rainbow Glen and 395



NB



NB



NB



Nb



SB



SB



SB



NB



Undercrossing is paved 2 lane road underneath I 15 which is Rainbow Glen Rd. Intersects 395 on east side of 395

Wildlife crossing sign.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 17432 |
| Survey Date | 07/11/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | P39A |
| Drop Point (Lat/Long) | |
| Latitude | 33.390628 |
| Longitude | -117.174055 |
| Speed | 1.13999998569489 m/s |
| Direction | 275.713226318359 degrees from N |
| Altitude | 268.117126464844 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Approximately 200 meters east of I 15 is 395. East of 395 is residential/agricultural property. Culvert in place is probably inadequate for large mammal access. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 40 feet |
| Height | 4 |
| Width | 4 |
| Length | 300 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | This culvert empties into ravine at base of slope approx. 100 meters east of I-15. It does not allow visibility to other side. The base of this ravine lies approx 40 feet below and 100 feet west of 395. The culvert would appear to run southeast to northwest. Hwy 395 to east of crossing. Residential/ agricultural development to east of 395. The opening of this culvert on the southbound side of I 15 lies within a drainage area which is used for dumping purposes and may be on private property. The southbound culvert access is barely visible, blocked by vegetation and avocado grove waste. |

| | |
|--|---|
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails in surrounding area, although no obvious signs of wildlife use at entrance to culvert. Multiple animal bones are present near culvert opening on SB side. |
| Fencing present? | Yes |
| Describe fencing type and height | 6 foot chain link running north-south parallel to I-15 on northbound side. This extends approx. 50 meters north and south of crossing location. This then extends down the eastern slope preventing human access to base of slope adjacent to 395. Also 6 foot chain link fence running north south approx 20 feet west of 395 at base of 20 foot slope which rises to meet 395. On west side of I-15 6 foot chain link fence running parallel to I-15. Extends beyond vision to north and south. |
| Consider for camera? | No |



NB



NB



Nb culvert



NB culvert



NB toward culvert



NB



NB



NB



SB



NB



NB



SB



SB



SB potential culvert



SB



SB



Obstructed culvert



Obstructed culvert (middle of photo)

Comments

The NB side culvert is approx. 200 yards south of crossing location, about halfway between crossing location and Mission overpass on east side. Hiway 395 is additional crossing barrier east of I-15. Agricultural property to west of I-15. Minimally travelled dirt

access road goes off to the west from west side of I-15. Appears to be access to avocado grove. Dry streambed approaches I-15 here from the west. It is approx. 15 feet deep. There is a culvert at its terminus before I-15, but is currently blocked to a significant degree. Crossing from west side currently at grade. Further evaluation of crossing at 395 recommended.

Management
recommendations

Consider expanding diameter of existing culvert. Further comment pending evaluation of 395 crossing to the east. Directional fencing to culvert.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 17323 |
| Survey Date | 07/10/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | P40 |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | West side is mobile home park culdesac. Steep uphill slope leading to 8 ft. concrete wall which borders fwy north-south. |
| Landscape and veg structure suggest corridor | No |
| Describe limitation of landscape and veg and which side of road | West side due to residential development. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | Yes |
| Describe human presence potential | Residential area at crossing point |
| Constraints | Yes |
| Describe constraint | No undercrossing Concrete wall at top of slope. |
| Evidence of other animals? | No |

| | |
|----------------------------------|---|
| Fencing present? | Yes |
| Describe fencing type and height | Concrete wall extending 1/8 mile north and south of crossing on west side I15 |
| Consider for camera? | No |

Photos



I15 southbound. view down to trailer park



SB. Wall next to I15.

| | |
|----------|--|
| Comments | Survey incomplete. Need to access mobile home park to complete survey. Potential undercrossing approx 300 meters north at Rainbow Creek. |
|----------|--|

| | |
|----------------------------|--|
| Management recommendations | |
|----------------------------|--|

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 20085 |
| Survey Date | 07/31/2018 |
| User | Rich Codington |
| Highway name | Old 395 |
| Location | P41 |
| Drop Point (Lat/Long) | |
| Latitude | 33.43796 |
| Longitude | -117.13669 |
| Speed | 0.0 m/s |
| Direction | 172.725021362305 degrees from N |
| Altitude | 364.159549713135 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 40 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Approx. 50 meters To the west of this location is a paved 2 lane residential road. Beyond that road, to the west, is fenced residential property. Approx. 100 meters west of this secondary paved road is a steep embankment leading up to northbound lanes of I-15. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 4 feet |
| Height | 2 |
| Width | 2 |
| Length | 55 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | Unknown |
| Constraints | Yes |
| Describe constraint | Crossing currently at grade. Culvert exit on southbound side is only 2 feet in diameter and half filled with dirt and debris. Culvert south of site is 3 feet in diameter with no see through capability, and NB entrance covered with concrete. Culvert entrance on NB side is covered with a removable concrete slab. Accessible only to very small wildlife. |
| Evidence of other animals? | Yes |

| | |
|--|---|
| Describe evidence of other animals present | Lizards in culvert. Game Trails |
| Fencing present? | Yes |
| Describe fencing type and height | Multiple fences on property to the west of the secondary paved road associated with private property there. Minor fencing on NB side. See comments. |
| Consider for camera? | No |



SB



SB



SB



SB



SB



SB



NB



NB



SB



SB



SB



DB



SB



SB



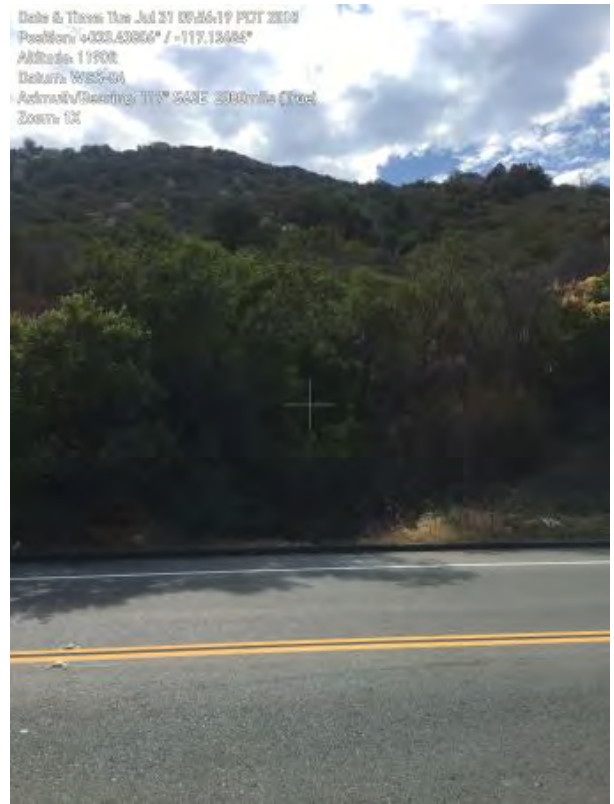
SB



SB



SB



SB



NB



NB

Comments

There is a small drainage leading down from west side of 395 culvert outlet to the paved road to the west. This is area of seasonal drainage and appears to be a natural riparian area. This culvert location is 30 meters north of GPS location of P 41. Human trash throughout this area. The northbound side of this location offers excellent habitat for wildlife movement. There is a second culvert approx. 20 meters south of P41. This culvert is 3 feet in diameter. Also with no through and through visibility. The orientation and structure of the 2 culverts are similar. At location of culvert number two south of location is 4 foot barbed wire fence 10 meters from and parallel to 395. The GPS location for P41 is between these 2 culverts. The paved road to the west of here is Rainbow Canyon Rd.

Management recommendations

Consider enlarging culvert. Difficult due to steep bank terminating at roadway on NB side. Barrier fencing. Wildlife crossing sign. Recommendations are the same for these two culvert locations.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 21045 |
| Survey Date | 08/10/2018 |
| User | Rich Codington |
| Highway name | Other |
| Highway number if not listed | Pechanga Parkway. |
| Location | P45 |
| Drop Point (Lat/Long) | |
| Latitude | 33.474182 |
| Longitude | -117.128578 |
| Speed | 0.430000007152557 m/s |
| Direction | 120.701118469238 degrees from N |
| Altitude | 308.549076080322 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 120 feet Six lane surface street overpass. |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 25 |
| Width | 240 |
| Length | 100 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Easy access below roadway through broken fence. Many footprints. Graffiti beneath bridge. Human encampment. No barrier fencing on NB side north and south of overpass allowing east human access here. |
| Constraints | Yes |
| Describe constraint | Human presence beneath bridge. Seasonal river flow. Surrounded by residential and commercial development. Lights at night from stores and streetlights. Traffic noise. No barrier fencing. |
| Evidence of other animals? | Yes |

| | |
|--|---|
| Describe evidence of other animals present | Multiple tracks in sand of riverbed. |
| Fencing present? | Yes |
| Describe fencing type and height | 7 foot chain link on north and south of riverbed paralleling riverbed undercrossing. On southbound side of overpass only. |
| Consider for camera? | Yes |
| Camera suggestions | At entrance to undercrossing. |



NB



NB



NB



NB



NB



NB



NB



NB



NB



NB



NB



NB



SB



SB



SB



SB



SB



SB



SB



SB



SB



SB



SB

Comments

There are two undercrossings beneath this bridge, both of equal size, separated by concrete bridge support. This is a good east west crossing location, but with the constraints noted above. Sandy under bridge and to the west. Heavy undergrowth to the

east. There is no barrier fencing on the east side of bridge.

Management
recommendations

Barrier fencing parallel to riverbed east and west of bridge. Light and sound dampening.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 21049 |
| Survey Date | 08/10/2018 |
| User | Rich Codington |
| Highway name | Rainbow Canyon Rd |
| Location | P46 |
| Drop Point (Lat/Long) | |
| Latitude | 33.469071 |
| Longitude | -117.128621 |
| Speed | 0.0 m/s |
| Direction | 232.720886230469 degrees from N |
| Altitude | 309.920597076416 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 45 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 7 |
| Width | 80 |
| Length | 45 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Easy access to human encroachment to area under bridge. Evidence of human encampment. Trash, graffiti. |
| Constraints | Yes |
| Describe constraint | Human presence. Traffic noise is moderate. Traffic is moderate here, and no large trucks. Riverbed only 10 feet below street level, contributing to higher noise level. River flow during rain. Development bordering east and west sides of riverbed. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Tracks in sand. Roadrunner, mice. |
| Fencing present? | No |

| | |
|----------------------|----------------------------|
| Consider for camera? | Yes |
| Camera suggestions | Entrance to undercrossing. |



SB



SB



SB



SB



SB



SB



SB



SB



SB



SB



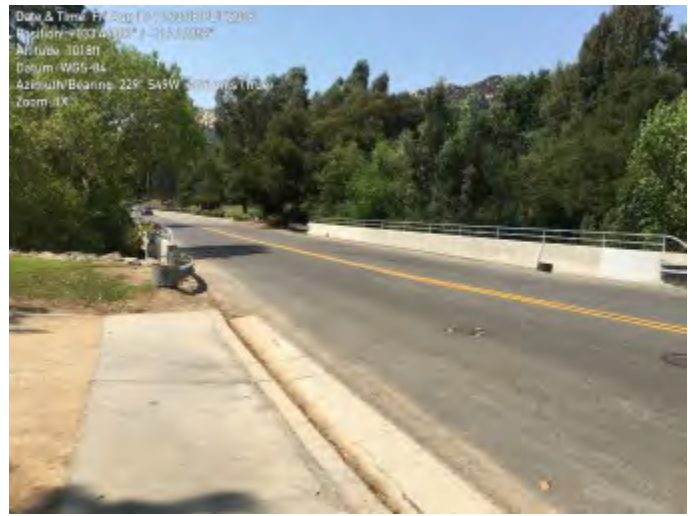
NB



NB



NB



NB



NB



NB



NB



NB



NB



NB



NB

Comments

Golf course borders creek on south side here. Residential on north side of creek. Concrete edge on north riverbank extending to east. Terrain has good undergrowth for cover in riverbed extending east-west from bridge.

Management recommendations

Barrier fencing. Insulation for sound dampening. Barrier fencing on north and south would also act as directional fencing here. Due to easy human access and close proximity to human presence, barrier would need to be resistant to human tampering.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 21480 |
| Survey Date | 08/14/2018 |
| User | Rich Codington |
| Highway name | Rainbow Canyon Rd |
| Location | P47 |
| Drop Point (Lat/Long) | |
| Latitude | 33.461989 |
| Longitude | -117.129133 |
| Speed | 0.0 m/s |
| Direction | 184.383941650391 degrees from N |
| Altitude | 339.276829939943 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 12 meters |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 2 feet |
| Height | 2 |
| Width | 2 |
| Length | 40 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Diameter of culvert too small to accommodate larger wildlife passage. Crossing is currently at grade. To the west, terrain is undeveloped, but multiple dirt bike trails. Traffic noise. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple game Trails. Coyote scat |
| Fencing present? | Yes |
| Describe fencing type and height | 7 foot chain link at SB roadside. Parallel to 395. 80 ft. In length. No fencing on NB side. |

| | |
|----------------------|--|
| Consider for camera? | Yes |
| Camera suggestions | To west of SB side culvert. To east of NB culvert. |



Date & Time: Tue Aug 14 11:46:46 PDT 2018
Position: -103.46190 / -117.12496
Altitude: 11120
Datum: WGS-84
Azimuth Bearing: 331° NSW 500mils (True)
Zoom: 1X

NB



Date & Time: Tue Aug 14 11:46:46 PDT 2018
Position: -103.46190 / -117.12496
Altitude: 11120
Datum: WGS-84
Azimuth Bearing: 331° NSW 500mils (True)
Zoom: 1X

NB



Date & Time: Tue Aug 14 11:39:56 PDT 2018
Position: -103.46206 / -117.12496
Altitude: 11120
Datum: WGS-84
Azimuth Bearing: 191° S11W 5996mils (True)
Zoom: 1X

NB



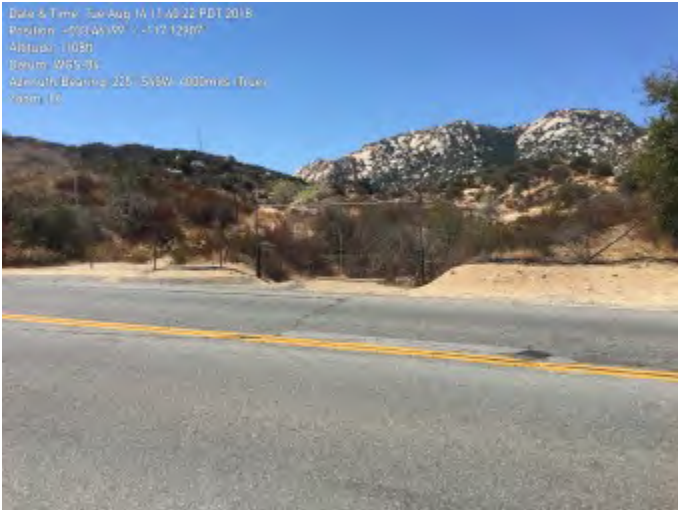
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Zoom: 1X

NB



Date & Time: Tue Aug 14 11:40:18 PDT 2018
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Zoom: 1X

NB

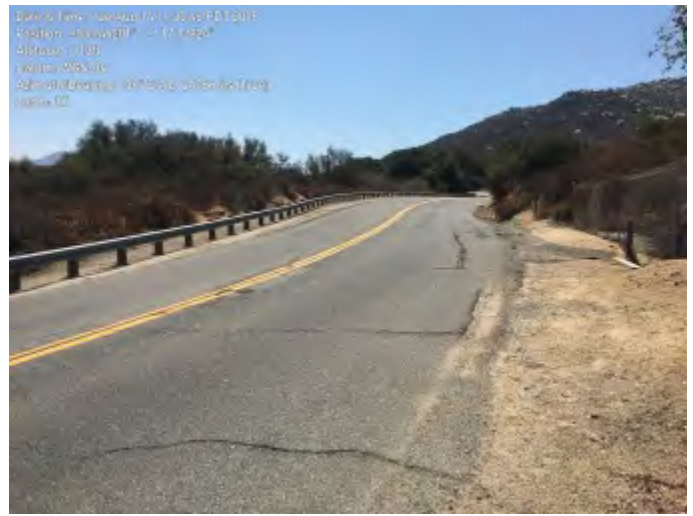


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Zoom: 1X

NB



SB



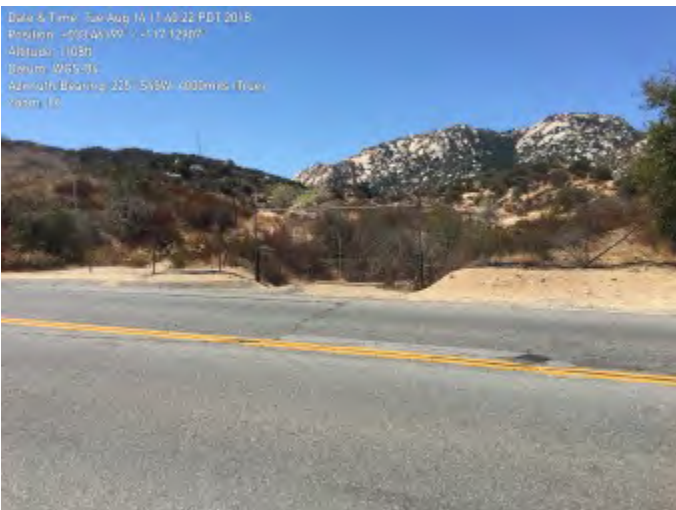
SB



SB



SB



SB

Comments

Relatively natural terrain to the west with multiple dirt roads and trails. More natural terrain to the southwest may provide excellent approach to this crossing location. Low to moderate traffic here. Culvert 2ft. Below grade of road on SB. Diameter of culvert

approx. 18 inches. Natural terrain/drainage on NB. Descends eventually to golf course.

Management
recommendations

Barrier fencing. Directional fencing. Wildlife crossing signs. Rumble strip. If possible, increase diameter of culvert.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 21500 |
| Survey Date | 08/14/2018 |
| User | Rich Codington |
| Highway name | Other |
| Highway number if not listed | Pechanga Parkway. |
| Location | P58 |
| Drop Point (Lat/Long) | |
| Latitude | 33.448231 |
| Longitude | -117.093592 |
| Speed | 0.899999976158142 m/s |
| Direction | 88.1309432983398 degrees from N |
| Altitude | 353.632838193285 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 35 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 5 feet |
| Height | 6 |
| Width | 6 |
| Length | 75 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Easy access. In close proximity to high school and roadway. Minimal trash now. No graffiti. Footprints in culverts. |
| Constraints | Yes |
| Describe constraint | Development to north and south. Stadium lights at high school 100 meters northeast. Noise during school activities. Increased traffic during those times as well. Pachanga Casino is one mile to the north. I would expect periodic heavy traffic due to events here. Open sandy riverbed to east and west which provides minimal cover. Water during rain. Traffic noise. Moderate traffic. There is a dirt road which parallels riverbed access to the |

east. There is vehicular access to the riverbed from this road approx. 50 meters east of Pachanga Rd. Potential traffic in riverbed on NB side. Human presence, expect primarily at night. No sign of encampments.

| | |
|--|--|
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Tracks in sand. Squirrels, gophers. |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to and south of riverbed. Extending approx. 100 meters to the west. 6 foot chain link parallel to riverbed from NB road extending to the east approx. several hundred yards. |
| Consider for camera? | Yes |
| Camera suggestions | West of culvert entrance. East of culvert entrance. |



SB



SB



SB



SB



SB



SB

Date & Time: Tue Aug 14 12:36:46 PDT 2018
Position: -003 44818 / -117 09377
Altitude: 11560
Datum: WGS-84
Azimuth/Heading: 055° N05E 1333m/s (True)
Zoom: 1X



SB

Date & Time: Tue Aug 14 12:36:46 PDT 2018
Position: -003 44819 / -117 09396
Altitude: 11630
Datum: WGS-84
Azimuth/Heading: 075° N75E 1333m/s (True)
Zoom: 1X



SB

Date & Time: Tue Aug 14 12:39:08 PDT 2018
Position: -003 44801 / -117 09363
Altitude: 11620
Datum: WGS-84
Azimuth/Heading: 015° N15W 6153m/s (True)
Zoom: 1X



SB

Date & Time: Tue Aug 14 12:50:30 PDT 2018
Position: -003 44823 / -117 09365
Altitude: 11500
Datum: WGS-84
Azimuth/Heading: 051° E05E 1163m/s (True)
Zoom: 1X



NB

Date & Time: Tue Aug 14 12:51:02 PDT 2018
Position: -003 44809 / -117 09343
Altitude: 11670
Datum: WGS-84
Azimuth/Heading: 338° N52W 5675m/s (True)
Zoom: 1X

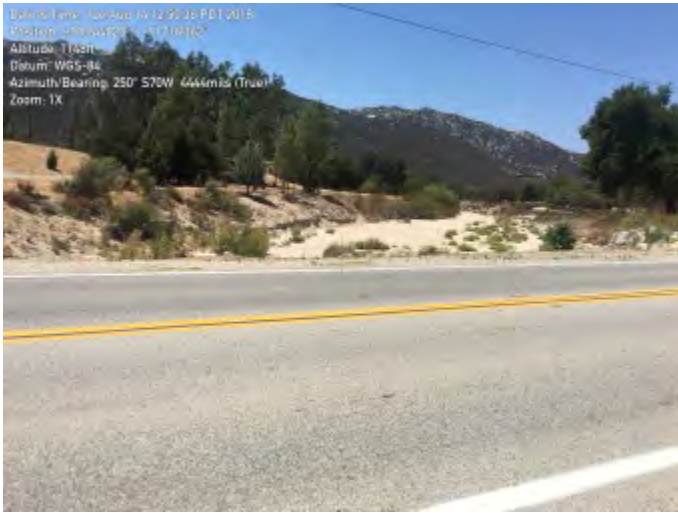


NB

Date & Time: Tue Aug 14 12:52:31 PDT 2018
Position: -003 44823 / -117 09361
Altitude: 11500
Datum: WGS-84
Azimuth/Heading: 285° S75W 6400m/s (True)
Zoom: 1X



NB



NB



NB



NB



NB

Comments

Four large culverts running under roadway provide excellent crossing potential. Traffic is moderate to heavy. Open riverbed provides minimal protection and cover to east and west of culvert access. The high school in close proximity has potential for lights and noise. Football field 100 meters to NE.

Management recommendations

Directional fencing. Barrier fencing. Evaluate what riverbed access road is used for and frequency of use. Consider locking gate here. Reduction of noise and lights.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 63522 |
| Survey Date | 11/21/2019 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | P63 |
| Drop Point (Lat/Long) | |
| Latitude | 33.419288 |
| Longitude | -117.087538 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | 0 m |
| Surveyor | |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Nothing to suggest this specific location is any different than any other spot in the next 1-4km. Good landscape on both sides but nothing noticeable or obvious with corridor connecting both sides of the road. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | West side more likely |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | Yes |
| Describe human presence potential | Residential housing nearby |
| Constraints | Yes |
| Describe constraint | Road at grade with landscape. |

| | |
|----------------------------------|---|
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | Chain fencing for approx 25 meters but plenty of space underneath fencing (at least a meter gap under fencing). |
| Consider for camera? | No |

Photos



Comments

Management recommendations

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 63526 |
| Survey Date | 11/21/2019 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | P64 |
| Drop Point (Lat/Long) | |
| Latitude | 33.415561 |
| Longitude | -117.086834 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Residence/fencing |
| Landscape and veg structure suggest corridor | No |
| Describe limitation of landscape and veg and which side of road | Good vegetation on both sides but nothing to suggest corridor crossing road at this specific location. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | Yes |
| Describe human presence potential | Residential both sides. |
| Constraints | Yes |
| Describe constraint | Fencing, private property |
| Evidence of other animals? | No |

| | |
|----------------------------------|------------------------|
| Fencing present? | Yes |
| Describe fencing type and height | 6' fencing both sides. |
| Consider for camera? | No |

Photos



Comments

Management
recommendations

SA-PAL survey

| | |
|---|----------------------------------|
| Project | SA-PAL project |
| ID | 63527 |
| Survey Date | 11/21/2019 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | P65 |
| Drop Point (Lat/Long) | |
| Latitude | 33.413322 |
| Longitude | -117.085023 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 3 |
| Height | 2.5 |
| Width | 2.5 |
| Length | 30 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Blind curves. Dangerous crossing |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | Yes |
| Camera suggestions | East side |

Photos



| | |
|----------------------------|--|
| Comments | East side is near termination of eastern canyon and good corridor. West side is near plateau of the this cross canyon. Good location of crossing structure as most northern feasible crossing location in vicinity. All other sites north on Pala Temecula rd at grade near various housing. |
| Management recommendations | Culvert and fencing. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 63528 |
| Survey Date | 11/21/2019 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | P66 |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 |
| Landscape character suggestive of likely crossing point | |
| Landscape and veg structure suggest corridor | |
| Other species observed | |
| Structure type | |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | |
| Constraints | |
| Evidence of other animals? | |
| Fencing present? | |
| Consider for camera? | |
| Photos | None |
| Comments | Unable to pull over to document. No noticeable culvert, highly unlikely. Close proximity to A51. |
| Management recommendations | Fencing both sides and refer to A51 for all mgmnt recommendations. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 15619 |
| Survey Date | 06/19/2018 |
| User | winston vickers |
| Highway name | Pala-Temecula Rd |
| Location | P67 |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Winston |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Have to cross at grade |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails west slope leading to road - photos taken Creek bed east side major travel way - photos taken |
| Fencing present? | No |
| Consider for camera? | |



Comments

No culvert option readily evident - water runs across road

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 30703 |
| Survey Date | 11/12/2018 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | P67 |
| Drop Point (Lat/Long) | |
| Latitude | 33.392635 |
| Longitude | -117.084171 |
| Speed | 0.219999998807907 m/s |
| Direction | 243.223754882812 degrees from N |
| Altitude | 184.182014465332 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Minimal access from west to east compared to other locations in cross proximity. |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Dead shrew on east side of road |
| Fencing present? | No |
| Consider for camera? | No |





Comments

Management
 recommendations

Isolation fencing both sides

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 30702 |
| Survey Date | 11/12/2018 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | P68 |
| Drop Point (Lat/Long) | |
| Latitude | 33.389686 |
| Longitude | -117.085408 |
| Speed | 0.0 m/s |
| Direction | 92.7051849365234 degrees from N |
| Altitude | 165.172065734863 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 5' |
| Height | 2 |
| Width | 2 |
| Length | |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Culvert is small and blocked with sediment and debris |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 25 meters of 6' chain link to North East |
| Consider for camera? | No |





Comments

Good landscape on West side as terrain slopes to road grade. Possible expansion of culvert or other road work scheduled based on survey marking on road. In this southern portion of road, there are numerous small 2' culverts indicating common erosion and

seasonal water flow.

Management
recommendations

This particular site is best to have expanded culvert and undercrossing. Directional fencing along both sides of road.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 30701 |
| Survey Date | 11/12/2018 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | P69 |
| Drop Point (Lat/Long) | |
| Latitude | 33.388526 |
| Longitude | -117.0852 |
| Speed | 0.379999995231628 m/s |
| Direction | 178.755462646484 degrees from N |
| Altitude | 145.915824242661 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 1 |
| Height | 2 |
| Width | 2 |
| Length | 35 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Small culvert. West side is 75% filled with erosion. Culvert does not provide any access for most animals. East side culvert extends beyond slope so animals can not access. Blind curve southbound. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |



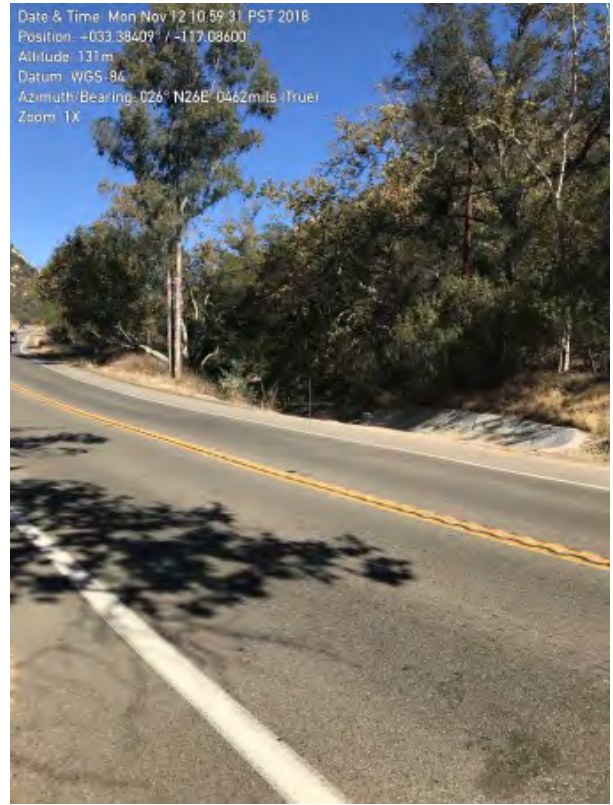


| | |
|----------------------------|--|
| Comments | Seasonal runoff provides some access to road west to east. Only likely travel, doubtful from East West. But would only be at road level. |
| Management recommendations | Fencing that prevents access to road. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 30700 |
| Survey Date | 11/12/2018 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | P70 |
| Drop Point (Lat/Long) | |
| Latitude | 33.384178 |
| Longitude | -117.085857 |
| Speed | 0.479999989271164 m/s |
| Direction | 181.642303466797 degrees from N |
| Altitude | 133.922370910645 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 20 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 3 |
| Height | 3 |
| Width | |
| Length | 25 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Small culverts, large animals will cross at grade. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Bobcat tracks |
| Fencing present? | Yes |
| Describe fencing type and height | 4' Residential/property fence at SW corner of culvert heading south. |
| Consider for camera? | No |





Comments

(4) adjacent 3' culverts crossing 45 degree angle across rd. Culverts are providing continuity of Pala Creek as it crosses under rd.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 19137 |
| Survey Date | 07/23/2018 |
| User | Jamie Bourdon |
| Highway name | Pala-Temecula Rd |
| Location | P71 |
| Drop Point (Lat/Long) | |
| Latitude | 33.380607 |
| Longitude | -117.083688 |
| Speed | 0.209999993443489 m/s |
| Direction | 247.095550537109 degrees from N |
| Altitude | 127.54810333252 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | No visible corridor to the east of Road. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Seasonal creek bed with good corridor running parallel to road on the west side Approx 50' off road. East side is residential property and open canyon slope/foothills to East. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | Yes |
| Describe human presence potential | Residential property to the east and west. |
| Constraints | Yes |
| Describe constraint | Residential property and lack of travel corridor to the east. |
| Evidence of other animals? | No |

| | |
|----------------------------------|---|
| Fencing present? | Yes |
| Describe fencing type and height | Intermittent 4' chain link fencing on east side. West side has 4' aesthetic fencing for property line but does not provide barrier. |
| Consider for camera? | No |



Comments

Private property on both sides of the road. No undercrossing present, all crossing currently at grade level. Likely crossing by Mtn Lion due to opportunistic predation on

private property.

Management
recommendations

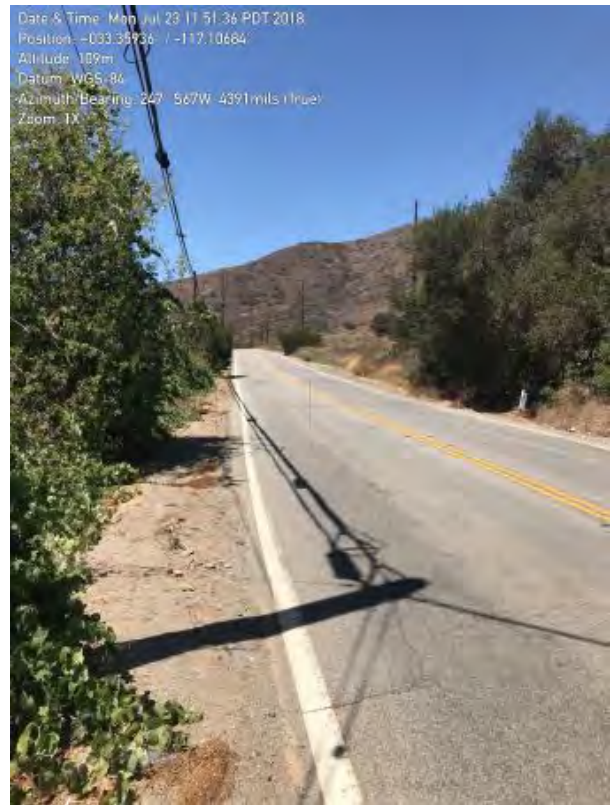
Barrier fencing along road.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 19140 |
| Survey Date | 07/23/2018 |
| User | Jamie Bourdon |
| Highway name | 76 |
| Location | P72 |
| Drop Point (Lat/Long) | |
| Latitude | 33.359249 |
| Longitude | -117.107001 |
| Speed | 0.0 m/s |
| Direction | 262.809478759766 degrees from N |
| Altitude | 106.091125488281 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Thicker scrub and brush along canyon to the north. Agricultural company open space to South. |
| Other species observed | <i>Spermophilus beecheyi</i> / California ground squirrel |
| Structure type | Round culvert |
| Culvert distance below road | 3 |
| Height | 2 |
| Width | 2 |
| Length | 40 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Bonnie Plants agricultural supply and farm directly to south of culvert. |
| Constraints | Yes |
| Describe constraint | Small culvert for larger animals. Dense vegetation and material at south side end of culvert. |
| Evidence of other animals? | Yes |

| | |
|--|--|
| Describe evidence of other animals present | Coyote scat, remnant of dead rattlesnake, |
| Fencing present? | Yes |
| Describe fencing type and height | Intermittent 3' 3 strand barbed wire approx 5' off road on both sides. Damaged and/or missing wire throughout. |
| Consider for camera? | No |



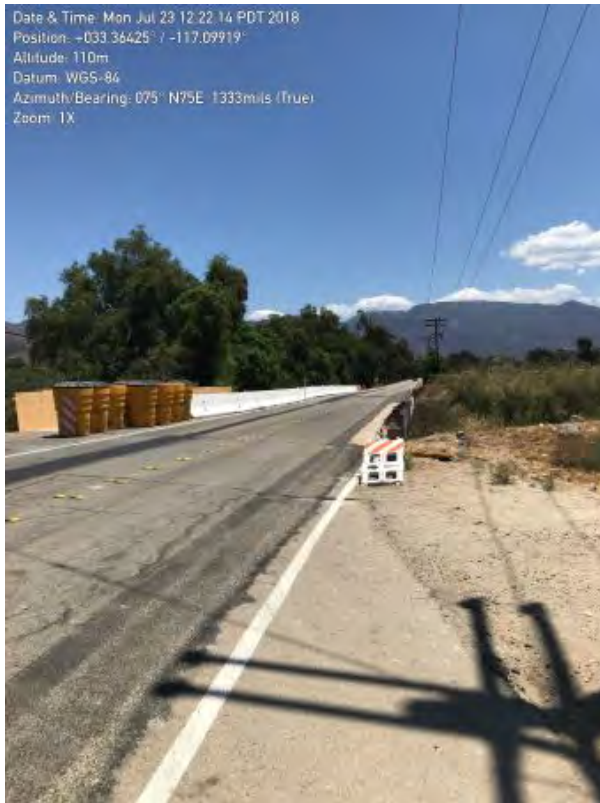


| | |
|----------------------------|---|
| Comments | Blind curve just East of culvert. Dangerous crossing point at grade. Lake/reservoir (Pala water supply?) just south of culvert which is likely attractant for all wildlife. |
| Management recommendations | Directional fencing. Expand culvert. |

SA-PAL survey

| | |
|---|---------------------------------|
| Project | SA-PAL project |
| ID | 19139 |
| Survey Date | 07/23/2018 |
| User | Jamie Bourdon |
| Highway name | 76 |
| Location | P73 |
| Drop Point (Lat/Long) | |
| Latitude | 33.364369 |
| Longitude | -117.099054 |
| Speed | 0.790000021457672 m/s |
| Direction | 213.537628173828 degrees from N |
| Altitude | 108.598091125488 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 15 |
| Width | 33 |
| Length | 30 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | No |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails, coyote prints |
| Fencing present? | No |
| Consider for camera? | No |





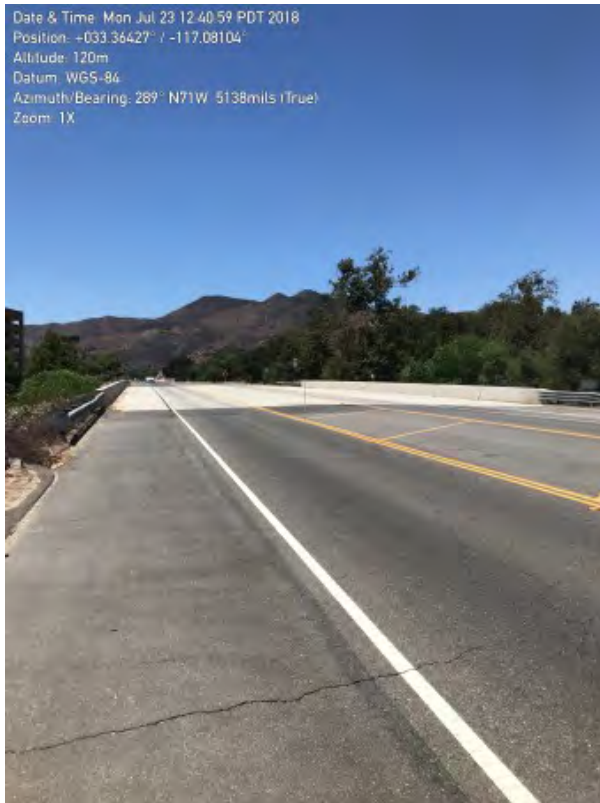
Comments

Adequate wildlife under crossing. Corridor to south may end in agricultural and/or private land. Game trails come out of the creek bed and lead up highway grade.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 19138 |
| Survey Date | 07/23/2018 |
| User | Jamie Bourdon |
| Highway name | 76 |
| Location | P74 |
| Drop Point (Lat/Long) | |
| Latitude | 33.364292 |
| Longitude | -117.081685 |
| Speed | 1.39999997615814 m/s |
| Direction | 11.6027412414551 degrees from N |
| Altitude | 115.669563293457 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 75 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 15 |
| Width | 140 |
| Length | 75 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Footprints. Minimal graffiti. Adjacent to Pala Casino service road and parking garage. |
| Constraints | Potential |
| Describe constraint | Noise and human activity due to proximity of casino |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails and coyote prints |
| Fencing present? | Yes |
| Describe fencing type and height | Broken, intermittent 3' 3 strand barbed wire 20' off road. |





Comments

Pala Creek bridge. Adequate animal under crossing. Good vegetation on both sides. Creek bed is adjacent to Casino's parking garage.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 28279 |
| Survey Date | 10/18/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P75 |
| Drop Point (Lat/Long) | |
| Latitude | 33.363632 |
| Longitude | -117.056245 |
| Speed | 0.0 m/s |
| Direction | 50.2456169128418 degrees from N |
| Altitude | 147.017600585517 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 20 feet |
| Height | 1 |
| Width | 1 |
| Length | 70 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Natural appearing drainage to the northeast approaches the roadway on the north side of 76. However, this drainage ends at a steep, 20 foot high embankment on the north side of 76. There is a small culvert 1 foot in diameter beneath the freeway, so crossing is currently at grade. Moderate to heavy two lane traffic with traffic noise. there is a small store about 200 meters northwest of this location. "Gems of Pala". The topography of the bank on the south side is the same as north with small 1 ft. diameter culvert. Crossing at grade. |
| Evidence of other animals? | Yes |
| Describe evidence of other | Multiple game Trails. |

| | |
|----------------------------------|---|
| animals present | |
| Fencing present? | Yes |
| Describe fencing type and height | Three foot barbed wire about 10 meters north of 76 parallel to freeway. Three foot barbed wire about 10 meters south of 76. Parallel to freeway. This fencing is outside of culvert openings. |
| Consider for camera? | Yes |
| Camera suggestions | Mount on fence north side of freeway toward game trail. Mount on fence south side of highway toward game trail. |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



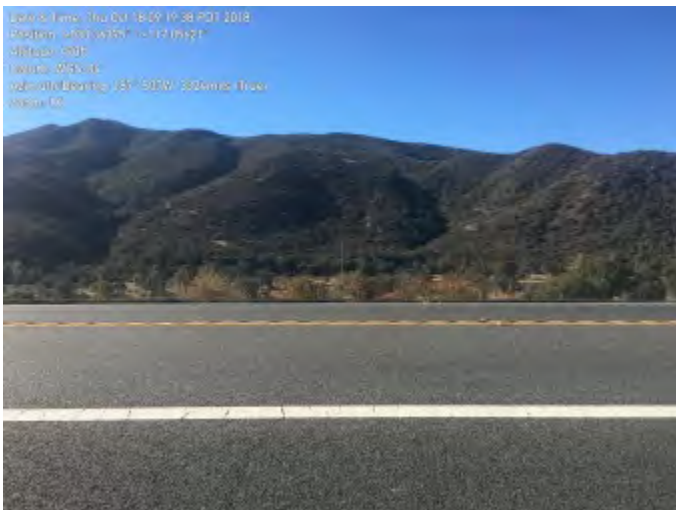
westbound



westbound



westbound



westbound



westbound

Comments

Fairly natural dry drainage with shrubs and boulders to the north. Natural chaparral to the south leading to hills 1/2 mile to south. There is a steep bank on south side of freeway which mirrors the topography on the north side. It drops from road grade to

natural level terrain on each side. It is a 45 degree grade and about 20 feet high.

Management
recommendations

Wildlife crossing signs and rumble strip. This location would seem ideal for an enlarged diameter culvert. Barrier fencing. Directional fencing.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 30043 |
| Survey Date | 11/05/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P76 |
| Drop Point (Lat/Long) | |
| Latitude | 33.362792 |
| Longitude | -117.049602 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 40-50 feet |
| Height | 3 |
| Width | 3 |
| Length | 75 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | This culvert is relatively narrow at 3 feet and is currently blocked on the westbound side by debris and vegetation. The culvert on the eastbound side exits in the middle of a steep bank, with a near vertical drop off of 25 feet at the exit. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple game Trails. Rodent scat. |
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire on westbound side parallel to road about 10 meters from road. |

Equivalent fencing on eastbound side in disrepair.

Consider for camera?

No



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



eastbound

Date & Time: Mon Nov 5 12:20:16 PST 2018
Position: +003 36251 / -117 049W
Altitude: 540ft
Datum: WGS-84
Azimuth Bearing: 017° N01E 1002mils (True)
Zoom: 1X



eastbound

Date & Time: Mon Nov 5 12:20:20 PST 2018
Position: +003 36261 / -117 053W
Altitude: 540ft
Datum: WGS-84
Azimuth Bearing: 203° S23W 5609mils (True)
Zoom: 1X



eastbound

Date & Time: Mon Nov 5 12:20:58 PST 2018
Position: +003 36290 / -117 049E1
Altitude: 538ft
Datum: WGS-84
Azimuth Bearing: 217° N02W 5635mils (True)
Zoom: 1X



eastbound

Date & Time: Mon Nov 5 12:34:01
Position: +003 36220 / -117 049E1
Altitude: 408ft
Datum: WGS-84
Azimuth Bearing: 231° N25W 6257mils (True)
Zoom: 1X



eastbound

Date & Time: Mon Nov 5 12:34:09 PST 2018
Position: +003 36227 / -117 049E3
Altitude: 470ft
Datum: WGS-84
Azimuth Bearing: 351° N02W 6240mils (True)
Zoom: 1X



eastbound

Date & Time: Mon Nov 5 12:34:21 PST 2018
Position: +003 36230 / -117 049E3
Altitude: 498ft
Datum: WGS-84
Azimuth Bearing: 052° N52W 6240mils (True)
Zoom: 1X



eastbound



eastbound

| | |
|----------------------------|---|
| Comments | Good landscape/approach to the north for wildlife travel. Culvert currently blocked. There is a 2 foot diameter vertical shaft next to westbound culvert entrance. Corrugated steel rising 10 feet above ground. Culvert exit on eastbound has poor access. |
| Management recommendations | Consider increasing diameter of culvert. Due to its depth beneath the road and steepness Of banks dropping 40 plus feet on either side of road, there is adequate space for larger structure beneath road. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 30184 |
| Survey Date | 11/06/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P77 |
| Drop Point (Lat/Long) | |
| Latitude | 33.35351 |
| Longitude | -117.027243 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Large scale agricultural development to north. Steep cliff near road on eastbound side with drop off ranging from one to two hundred feet and extending at least 750 meters in both east and west directions. Beyond the bottom of the cliff to the south, landscape is conducive to wildlife travel. |
| Landscape and veg structure suggest corridor | No |
| Describe limitation of landscape and veg and which side of road | North side limited due to agricultural development. On the south side lies the steep slope (essentially a non negotiable cliff) extending both east and west of this location. Beyond the base of the plateau to the south lies open natural landscape. (Wilderness Gardens Park) |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing at grade. Traffic noise. Ag land on westbound 86. Steep cliff south of 76 as |

described above.

| | |
|--|-----------------------|
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple game Trails. |
| Fencing present? | No |
| Consider for camera? | No |



westbound: Small culvert east of this location. This is culvert entrance on north side. The culvert exit on the south side of 76 is not accessible.



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound: Cliff which lies to the south of eastbound 76



eastbound: This is the eastward extension of the large steep slope on the southern side of 76. View toward Wilderness Gardens

Comments

Approximately 150 meters east of P77 there is a 2 foot diameter metal culvert on the westbound side of 76. No ability to see through this. It is partially blocked by debris and vegetation. It passes about 5 feet beneath the road and empties into a narrow ravine on the south side of 76. This ravine lies at the top of a 200 foot drop off. It is a poor conduit for larger wildlife. There is a small peninsula on the eastbound side of 76 approximately 150 meters east of P77. It is bordered by the road and on all southern sides by the cliff noted above. This culvert exit is not accessible for photos.

Management recommendations

Barrier fencing. There is nowhere for wildlife to travel on the eastbound side of 76 as is, other than parallel to the road for up to 1/2 to 1 mile. I would not recommend culvert expansion here. The exit is in a non negotiable location at the top of the cliff.

SA-PAL survey

| | |
|---|---------------------------------|
| Project | SA-PAL project |
| ID | 28380 |
| Survey Date | 10/19/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P77 east Alice Fire Trail |
| Drop Point (Lat/Long) | |
| Latitude | 33.35219 |
| Longitude | -117.025431 |
| Speed | 0.0 m/s |
| Direction | 284.744873046875 degrees from N |
| Altitude | 257.042712993394 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 30 |
| Height | 3 |
| Width | 3 |
| Length | 75 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Culvert diameter 3 feet |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails |
| Fencing present? | No |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound



westbound



westbound

| | |
|----------------------------|--|
| Comments | This is not a KLM marked location. GPS marked above. East of P77 on SR 76. Survey incomplete. No eastbound photos taken. |
| Management recommendations | Good location for larger undercrossing/ culvert expansion. |

SA-PAL survey

| | |
|---|---------------------------|
| Project | SA-PAL project |
| ID | 51614 |
| Survey Date | 07/10/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P77 east Alice Fire Trail |
| Drop Point (Lat/Long) | |
| Latitude | 33.274841 |
| Longitude | -116.841514 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | 0 m |
| Surveyor | |
| Road type | |
| Estimated width of road from one pavement edge to the other | |
| Landscape character suggestive of likely crossing point | |
| Landscape and veg structure suggest corridor | |
| Other species observed | |
| Structure type | |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | |
| Constraints | |
| Evidence of other animals? | |
| Fencing present? | |
| Consider for camera? | |
| Photos | None |
| Comments | |
| Management recommendations | |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 31274 |
| Survey Date | 11/19/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P78 |
| Drop Point (Lat/Long) | |
| Latitude | 33.345021 |
| Longitude | -117.022491 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing here at grade. Traffic noise |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Coyote scat. Game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire 10 meters south of Eastbound 76. Intermittent and in disrepair. |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound

Comments

This is essentially the same crossing location as A59,60,61. The main and ideal crossing location in this area is approximately 40 meters west at Agua Tibia Creek Bridge. That location is #A58. There are no separate culverts or crossing structures at P78, A59,60,61. .

Management recommendations

Barrier fencing. Directional fencing and trails to funnel animals to Agua Tibia Creek location. #58.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 31373 |
| Survey Date | 11/20/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P79 |
| Drop Point (Lat/Long) | |
| Latitude | 33.326685 |
| Longitude | -116.998726 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 40 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 7 |
| Width | 28 |
| Length | 45 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Extensive graffiti. Trash, sleeping bag. No obvious ongoing encampment. Spoke with one gentleman who has spent the last two nights there. No large encampment. |
| Constraints | Yes |
| Describe constraint | Human presence. Traffic noise. Agricultural development and activity to north and south, although natural drainage extending to north and south from undercrossing. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Tracks under bridge. |
| Fencing present? | Yes |

| | |
|----------------------------------|---|
| Describe fencing type and height | Intermittent barbed wire in extensive disrepair on westbound side of bridge in drainage area. |
| Consider for camera? | Yes |
| Camera suggestions | At entrance/exit under bridge eastbound and westbound. |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound.



Date & Time: Mon Jul 15 16:23:33 PDT 2019
 Position: -003 32677 / -116 99863
 Altitude: 809ft
 Datum: WGS-84
 Azimuth/Bearing: 068° N68E 1209m/s (True)
 Zoom: 1X

Camera BHD 68 Camera placed on Eastbound side just beyond exit of underpass facing under bridge. Access this camera by climbing down at southwest corner of bridge.

Camera BHD 68 View from camera on eastbound side facing north under bridge.

| | |
|----------------------------|--|
| Comments | This is a good area for wildlife to cross beneath 76 in this area. Although there is extensive graffiti here, there are minimal signs of ongoing encampment. The bridge here consists of two main passages separated by one abutment wall traversing undercrossing north to south. Some repair work is currently taking place on this bridge. CAmera BHD 68 placed on 7-15-19. |
| Management recommendations | Fencing to exclude human presence. Barrier fencing. Directional fencing and trails to funnel animals in this direction. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 32027 |
| Survey Date | 11/28/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P80 |
| Drop Point (Lat/Long) | |
| Latitude | 33.301803 |
| Longitude | -116.921047 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 35 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing at grade on curve with poor visibility. Traffic noise |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple birds. Coyote scat. |
| Fencing present? | Yes |
| Describe fencing type and height | Five foot barbed wire approx 10 meters south of eastbound lane. Parallel to road. |
| Consider for camera? | No |



Westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound

| | |
|----------------------------|--|
| Comments | Landscape north of westbound lane is at same grade as road. There is a streambed which is adjacent to and parallel to eastbound lane. It is approx. 5 feet below road grade. Notes from 7-10-19 reassessment: I would not change anything regarding data or comments from original evaluation. |
| Management recommendations | Barrier fencing. Wildlife crossing signs. Does not appear conducive to undercrossing construction due to grade levels. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 34590 |
| Survey Date | 12/28/2018 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P81 |
| Drop Point (Lat/Long) | |
| Latitude | 33.301431 |
| Longitude | -116.91385 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Approx. 25 foot 90 degree rock embankment on eastbound side of 76. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Embankment eastbound side |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Steep embankment eastbound side. Crossing at grade with blind turns approaching from east and west. Traffic noise. |
| Evidence of other animals? | No |
| Fencing present? | No |



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound

Comments

Not optimal crossing location currently due to steep embankment EB side of 76. Open landscape to the south of WB 76. Crossing at grade. Road is on the side of steep mountain here.

Management recommendations

Wildlife crossing signs. Barrier fencing. Rumble strip.

SA-PAL survey

| | |
|---|----------------|
| Project | SA-PAL project |
| ID | 34649 |
| Survey Date | 01/02/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P82 |
| Drop Point (Lat/Long) | |
| Latitude | 33.291083 |
| Longitude | -116.893642 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | see comments |
| Landscape and veg structure suggest corridor | No |
| Describe limitation of landscape and veg and which side of road | see comments |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | |
| Evidence of other animals? | |
| Fencing present? | |
| Consider for camera? | No |
| Photos | None |

| | |
|----------------------------|--|
| Comments | This location is in close proximity to A67. It has no culvert or structure to consider it as an alternative potential crossing location to A67. Therefore, it is considered as the same location as A67. See photos and information for A67. |
| Management recommendations | Barrier fencing. Wildlife trails and directional fencing to direct wildlife to the crossing structure at A67. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 51615 |
| Survey Date | 07/10/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P83 |
| Drop Point (Lat/Long) | |
| Latitude | 33.275064 |
| Longitude | -116.84103 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 22 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 2 |
| Height | 2 |
| Width | 2 |
| Length | |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Culvert diameter too small for larger wildlife. Cannot see through culvert. Crossing otherwise at grade. Traffic noise. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Rat roadkill. |
| Fencing present? | No |
| Consider for camera? | No |



westbound



westbound



eastbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound Roadkill at crossing location



eastbound

Comments

Steep landscape to north, but there is a Creek drainage that runs to the north from westbound roadside. Steep slope on eastbound side dropping to creek below. Unable to locate eastbound side culvert exit. It is on steep slope amongst dense brush (presumably). A75 coordinates are essentially the same. This survey should be considered as both P83 and A75.

Management recommendations

Rumble strip. Wildlife crossing signs. Barrier fencing. Minimal access to increase culvert size on westbound side.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 34673 |
| Survey Date | 01/02/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P84 |
| Drop Point (Lat/Long) | |
| Latitude | 33.273493 |
| Longitude | -116.849138 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 15 meters on westbound side. Unknown on eastbound side. Large, steep embankment with high thick vegetation. |
| Height | 4 |
| Width | 4 |
| Length | |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Steep drop off south side of 76. Traffic noise. Character of terrain around eastbound culvert exit unknown at this time. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire 20 meters south of eastbound 76. |



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound

| | |
|----------------------------|--|
| Comments | Unable to visualize or access culvert exit on eastbound side. It is located in heavy brush on steep slope. Open natural landscape to north and south. Corridor in natural drainage. Culvert diameter moderate at four feet. Traffic noise moderated due to large distance between grade level and depth of culvert. Consider team effort to locate culvert exit on eastbound side if deemed appropriate. This report is incomplete due to absence of data regarding this culvert exit. |
| Management recommendations | Increase diameter of culvert. Investigate terrain around eastbound culvert exit. Rumble strip. Wildlife crossing signs. Barrier and directional fencing. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 51616 |
| Survey Date | 07/10/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P85 |
| Drop Point (Lat/Long) | |
| Latitude | 33.274884 |
| Longitude | -116.836912 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 22 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 4 |
| Height | 4 |
| Width | 4 |
| Length | 35 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | There is a small campground on the eastbound side. Probably not occupied most of the year. |
| Constraints | Yes |
| Describe constraint | Traffic noise. Proximity of culvert to road. Culvert, although of moderate size at 4 feet, is partially blocked by mud and vegetation. Campground on eastbound side. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails |
| Fencing present? | Yes |

| | |
|----------------------------------|---|
| Describe fencing type and height | 3 foot barbed wire in disrepair on eastbound side. Primarily to prevent access to culvert exit. |
| Consider for camera? | No |



westbound partially blocked culvert entrance



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound culvert exit

Comments

Good crossing potential. It would appear likely that culvert diameter could be increased here. This location is approximately 30 meters west of GPS coordinates given for P85. However, this location is a more ideal crossing location.

| | |
|----------------------------|---|
| Management recommendations | Increase diameter of culvert and improve access. Clear culvert of current blockage. Barrier fencing. Rumble strip. Wildlife crossing signs. |
|----------------------------|---|

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 51618 |
| Survey Date | 07/10/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P86 |
| Drop Point (Lat/Long) | |
| Latitude | 33.275269 |
| Longitude | -116.834861 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Campground on eastbound side. Low density. Probably not occupied year round. |
| Constraints | Yes |
| Describe constraint | No crossing structure. Crossing at grade. Campground to the south. Traffic noise. Blind curve in both directions. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire parallels 76 on westbound side in this area. 4 foot barbed wire in disrepair along eastbound side. |
| Consider for camera? | No |



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound

| | |
|----------------------------|---|
| Comments | Good corridor to north and south, but crossing currently at grade. |
| Management recommendations | There is space to place a moderate sized culvert under the road here. Barrier fencing. Rumble strip. Wildlife crossing signs. |

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 51617 |
| Survey Date | 07/10/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P87 |
| Drop Point (Lat/Long) | |
| Latitude | 33.274256 |
| Longitude | -116.831929 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 8 |
| Height | 1 |
| Width | 1 |
| Length | |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Low density campground to the south. |
| Constraints | Yes |
| Describe constraint | Traffic noise. Culvert diameter too small for most wildlife to access. Can't see through culvert. Current crossing at grade. Low density campground to the south. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to westbound roadside. |



westbound



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound

Comments

Unable to locate culvert exit on eastbound side. It is buried in vegetation on steep slope. Could not see through culvert from westbound entrance. This location has good crossing potential with space for culvert enhancement and good corridor to north and south.

Management recommendations

There is adequate space to increase culvert diameter and access here. Barrier fencing. Rumble strip. Wildlife crossing signs.

SA-PAL survey

| | |
|---|----------------------------------|
| Project | SA-PAL project |
| ID | 51619 |
| Survey Date | 07/10/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P88 |
| Drop Point (Lat/Long) | |
| Latitude | 33.272454 |
| Longitude | -116.830402 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 8 feet |
| Height | 5 |
| Width | 5 |
| Length | 40 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | Yes |
| Camera suggestions | At entrance and exit of culvert. |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



camera BHD 161



camera BHD 161

Comments

This is an excellent location with a relatively large culvert passing diagonally beneath road. It has some sediment on the floor. There is thick vegetation on the approach to the culvert entrance on the westbound side. Good corridor to north and south.

Management recommendations

Barrier fencing. Noise abatement. Directional fencing and trails leading wildlife to this crossing. Dredging of culvert bottom. Clear vegetation at westbound entrance. Expanding the culvert here would further enable wildlife transit.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 51620 |
| Survey Date | 07/10/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P89 |
| Drop Point (Lat/Long) | |
| Latitude | 33.272196 |
| Longitude | -116.82876 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 10 feet |
| Height | 2 |
| Width | 2 |
| Length | 50 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Diameter of culvert not amenable to transit of larger wildlife. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound

| | |
|----------------------------|---|
| Comments | Promising crossing location. Good corridor to north and south. Culvert diameter is too small for larger wildlife. |
| Management recommendations | Barrier fencing. Rumble strip. Wildlife crossing signs. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 34839 |
| Survey Date | 01/04/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P90 |
| Drop Point (Lat/Long) | |
| Latitude | 33.263688 |
| Longitude | -116.810387 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Private school to the north. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 2 feet |
| Height | 2 |
| Width | 2 |
| Length | 50 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing at grade due to diameter and blockage of culvert. Traffic noise. Private school property on westbound side. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 3 foot barbed wire used to fence private property. It parallels 76 approx. 15 meters north |

of 76 on westbound side.

Consider for camera?

No



westbound



westbound



westbound



westbound



westbound



westbound



eastbound blocked culvert



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound

Comments

Most of school structures are approx. 30 meters to the east on the north side of 76 here. To the northwest, landscape appears open. Culvert completely blocked by dirt/leaves on eastbound side.

Management recommendations

Due to embankment rising from road edge on westbound side, and culvert on this side lying at grade level, increasing diameter of culvert difficult. Barrier fencing. Rumble strip. Wildlife crossing sign.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 35034 |
| Survey Date | 01/08/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P91 |
| Drop Point (Lat/Long) | |
| Latitude | 33.256998 |
| Longitude | -116.797222 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 2 feet on westbound side. 10 feet on eastbound side. |
| Height | 2 |
| Width | 2 |
| Length | 40 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Small diameter culvert currently blocked by dirt and leaves at southern end. Relatively steep angle of culvert, dropping from north to south. Traffic noise due to culvert access areas' proximity to road. Crossing currently at grade. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 3 foot barbed wire intermittent and in disrepair on EB side. 4 foot intermittent barbed wire in disrepair westbound side. |
| Consider for camera? | No |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound

Comments

Steep embankment rising from edge of road on WB side would make increasing diameter of culvert difficult. Culvert totally blocked on EB end.

Management recommendations

Barrier fencing. Wildlife crossing signs. Rumble strip.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 35127 |
| Survey Date | 01/09/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P92 |
| Drop Point (Lat/Long) | |
| Latitude | 33.242231 |
| Longitude | -116.777276 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 10 feet |
| Height | 4 |
| Width | 4 |
| Length | 55 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing at grade for animals for which 4 foot diameter culvert is too small. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | Four foot barbed wire south of eastbound 76. Parallel to road. 20 meters from road. No fencing westbound side. |
| Consider for camera? | No |



eastbound



eastbound



rastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



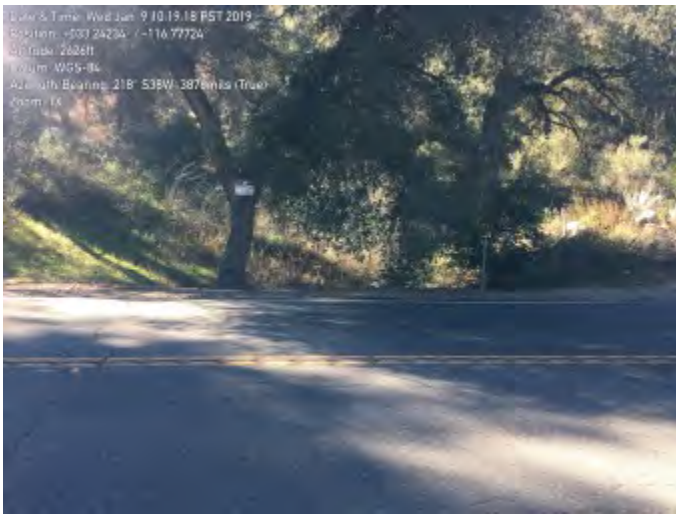
westbound



westbound



westbound



westbound



westbound



westbound



westbound

Comments

Traffic noise is less here than other areas nearby due to distance of culvert openings from road as well as their depth beneath road. Diameter of culvert not amenable to larger animals. Excellent approach and landscape for wildlife from north and south. Drainage here is from south to north. Traffic flow minimal here. The bridge at A84 is a better crossing location in close proximity to this location.

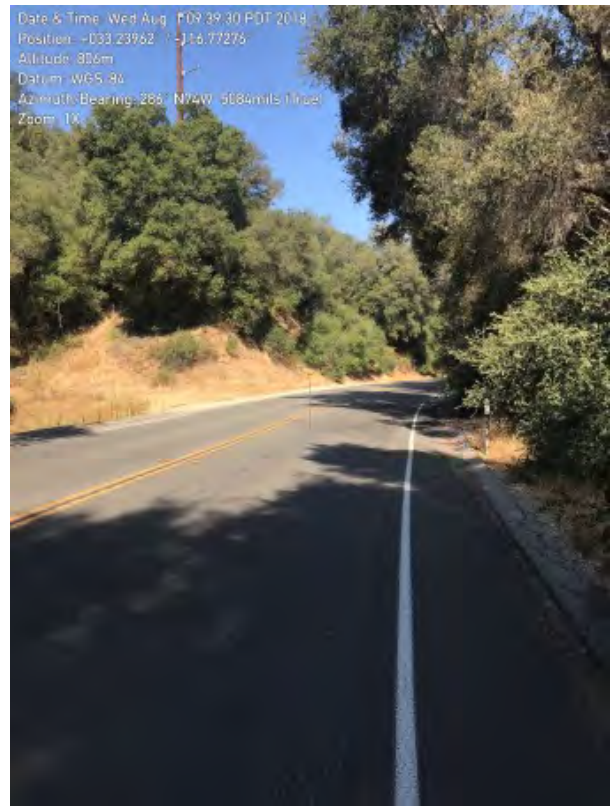
Management recommendations

Increase diameter of culvert. There is space and access to do this here. Upslope toward culvert on north and flat approach to culvert on south. Barrier fencing. Directional fencing. Wildlife trails leading to this location. Wildlife trails and fences to funnel wildlife toward A84.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 20213 |
| Survey Date | 08/01/2018 |
| User | Jamie Bourdon |
| Highway name | 76 |
| Location | P93 |
| Drop Point (Lat/Long) | |
| Latitude | 33.239644 |
| Longitude | -116.773017 |
| Speed | 0.170000001788139 m/s |
| Direction | 269.136596679688 degrees from N |
| Altitude | 808.122362136841 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 8 |
| Height | 2 |
| Width | 2 |
| Length | 50 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Culvert elevated on north side due to erosion undercutting. Heavy and partial obstruction to culvert on north side. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails. |
| Fencing present? | Yes |
| Describe fencing type and height | 4' 4 strand barbed wire approx 40' to South. |





Comments

Due to culvert constraints, crossing will be at road.

Management
recommendations

Enlarge culvert to address erosion issues and improve undercrossing. Directional fencing both sides.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 35056 |
| Survey Date | 01/08/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P93 |
| Drop Point (Lat/Long) | |
| Latitude | 33.239728 |
| Longitude | -116.77296 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 15 feet |
| Height | 3 |
| Width | 3 |
| Length | 65 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Narrow diameter of culvert. Traffic noise. Culvert opening on north side is difficult to enter. It is several feet above ground. Approaches to each end of culvert are overgrown with thick brush. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to eastbound 77 approx 20 meters from road. No fencing to north. |
| Consider for camera? | No |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound

Comments

Narrow culvert with difficult access from north.

Management recommendations

Increase diameter of culvert and improve access at each end. Barrier fencing.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 20214 |
| Survey Date | 08/01/2018 |
| User | Jamie Bourdon |
| Highway name | 76 |
| Location | P94 |
| Drop Point (Lat/Long) | |
| Latitude | 33.238742 |
| Longitude | -116.768501 |
| Speed | 0.46000000834465 m/s |
| Direction | 216.846893310547 degrees from N |
| Altitude | 808.943651199341 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 8 |
| Height | 4 |
| Width | 4 |
| Length | 50 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Close enough to grade animals likely to crossing at road. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 4' 4 strand barbed wire south side of road. |
| Consider for camera? | No |





Comments

Culvert and access good.

Management
 recommendations

Directional fencing to encourage use of culvert. Possibly spray coating on floor of culvert

to improve padding. Barrier fencing to encourage use of expanded potential culvert to East.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 35130 |
| Survey Date | 01/09/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P94 |
| Drop Point (Lat/Long) | |
| Latitude | 33.238765 |
| Longitude | -116.768593 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 10 feet on north side, 2 feet on south side. |
| Height | 4 |
| Width | 4 |
| Length | 50 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Culvert in close proximity to road on eastbound side. Traffic noise. Turnoff to East Grade Road is 30 meters to west of this location. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 3 foot barbed wire parallel to eastbound 76. Approx. 15 meters from road. |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound

Comments

Natural landscape to north and south creates good crossing habitat. Drainage is from south to north here. Traffic flow moderate here. There is clearance and access to increase diameter of culvert here. The location surveyed is 50 meters west of Waypoint given for P94. There is no crossing access at that location.

Management recommendations

Increase diameter of culvert. Barrier fencing. Directional fencing.

SA-PAL survey

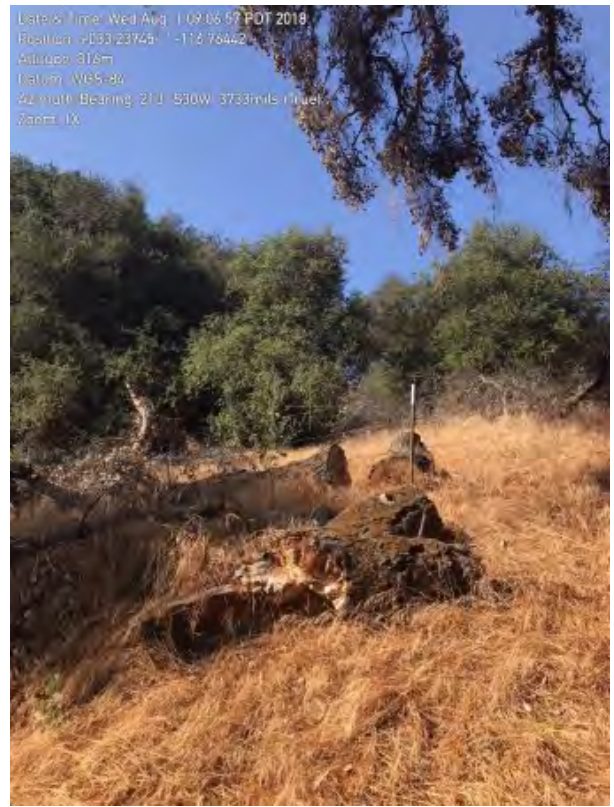
| | |
|---|---|
| Project | SA-PAL project |
| ID | 20215 |
| Survey Date | 08/01/2018 |
| User | Jamie Bourdon |
| Highway name | 76 |
| Location | P95 |
| Drop Point (Lat/Long) | |
| Latitude | 33.237569 |
| Longitude | -116.764385 |
| Speed | 0.28999999165535 m/s |
| Direction | 328.093627929688 degrees from N |
| Altitude | 820.059862136841 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | <i>Odocoileus hemionus</i> / Mule deer |
| Structure type | Round culvert |
| Culvert distance below road | 18 |
| Height | 3 |
| Width | 3 |
| Length | 50 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | North side of culvert at least 3' above drainage due to erosion. Unable to use culvert as undercrossing. Culvert too small. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Roadkill deer approx 50 meters east of crossing. |
| Fencing present? | Yes |
| Describe fencing type and height | 4' 4 strand barbed wire on south side approx 50' off road. |

| | |
|----------------------|---|
| Consider for camera? | Yes |
| Camera suggestions | South side outside culvert near large oak tree. |



oak trees in distance: location of P95







Comments

Vista irrigation district land to South. P95 location along corridor to south. Great corridors to north and south. Visible game trails both sides of road. Adequate drainage and terrain for larger culvert. Caltranse at Lake Henshaw maintenance yard confirmed

mule deer roadkill in past.

Management
recommendations

Improved and expanded culvert. Directional fencing. Due to terrain, corridors and roadkill. Excellent opportunity for proper undercrossing.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 35131 |
| Survey Date | 01/09/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P95 |
| Drop Point (Lat/Long) | |
| Latitude | 33.237508 |
| Longitude | -116.764442 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Fairly close proximity of Lake Henshaw Dam to the north and associated infrastructure. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 10 feet on south. 15 feet on north. |
| Height | 3 |
| Width | 3 |
| Length | 55 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Culvert diameter. Traffic noise. Residential property as well as Lake Henshaw dam infrastructure to northeast. Culvert exit on north side is several feet above ground level. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails |
| Fencing present? | Yes |

| | |
|----------------------------------|--|
| Describe fencing type and height | 4 foot barbed wire 25 meters to the south of 76. Parallel to road. |
| Consider for camera? | No |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



esstbound



westbound



westbound



westbound



westbound

Comments

This location is approx. 70 meters west And 100 meters north of the Waypoint given for P95. There was no crossing structure at the Waypoint. The Waypoint given is 100 meters to the south of the road on private property. It is not accessible for evaluation.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 35137 |
| Survey Date | 01/09/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P96 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 129.671951293945 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 8 feet. |
| Height | 4 |
| Width | 4 |
| Length | 50 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Commercial buildings/ restaurant to the southeast. Culvert exit on westbound side empties into an area of steep rip rap 8 feet above ground level. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | Intermittent 3 foot barbed wire in disrepair. 20 meters south of and parallel to 76. 8 foot barbed wire directly north of westbound culvert exit which parallels road. |
| Consider for camera? | No |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound

| | |
|----------------------------|--|
| Comments | Note elevation of north side culvert exit. Culvert drains south to north here. |
| Management recommendations | Increase diameter of culvert. Level the approach to westbound culvert exit. Barrier fencing. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 35140 |
| Survey Date | 01/09/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P97 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 130.167922973633 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 15 feet on westbound side. Two feet on eastbound side. |
| Height | 2 |
| Width | 2 |
| Length | 45 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Narrow diameter of culvert. Crossing otherwise at grade. Traffic noise. Eastbound culvert adjacent to road and at grade level. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to and approx 10 meters north of westbound 76. 3 foot barbed wire at top of eastbound slope. Parallel to road. |
| Consider for camera? | No |



westbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound

| | |
|----------------------------|--|
| Comments | Steep embankment rises from eastbound roadside approx. 20 feet. Eastbound culvert entrance adjacent to road with difficult access. |
| Management recommendations | Barrier fencing. Rumble strip. Wildlife crossing sign. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 35152 |
| Survey Date | 01/09/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P98 |
| Drop Point (Lat/Long) | |
| Latitude | 33.210174 |
| Longitude | -116.732379 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 5 feet on eastbound side. 15 feet on westbound side. |
| Height | 2 |
| Width | 2 |
| Length | 40 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Culvert diameter narrow. Crossing otherwise at grade. Culvert entrance adjacent to road on eastbound side. Traffic noise. Culvert entrance at bottom of stone shaft/box on eastbound side. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire parallel to road. 20 feet from westbound 76. 4 foot barbed wire 10 |

meters from and parallel to eastbound 76.

| | |
|----------------------|----|
| Consider for camera? | No |
|----------------------|----|



westbound



westbound



westbound



westbound



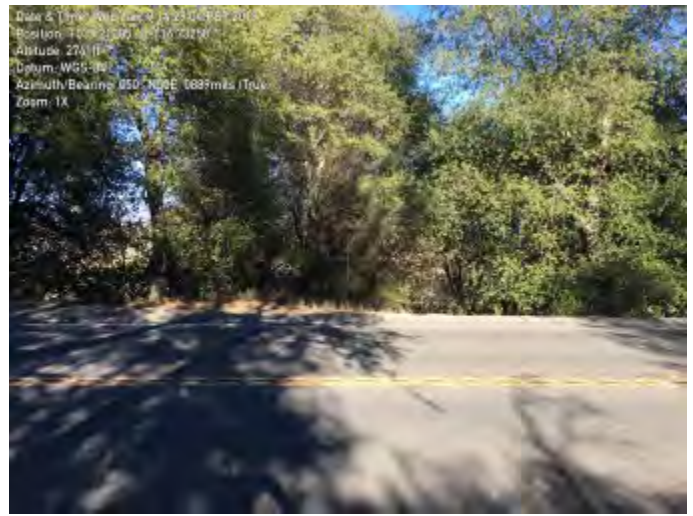
westbound



eastbound



eastbound



eastbound



eastbound



eastbound

Comments

Turnoff to East Loop is 30 meters east of here. This road parallels 76 for several hundred yards before merging back into 76 to the east. The landscape to the north and south are suitable for approach to this crossing, but culvert is not amenable to wildlife transit. Culvert entry is at base of 5 foot deep stone box on eastbound side.

Management recommendations

Barrier fencing. Rumble strip. Wildlife crossing signs.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 63067 |
| Survey Date | 11/18/2019 |
| User | Rich Codington |
| Highway name | 76 |
| Location | P99 |
| Drop Point (Lat/Long) | |
| Latitude | 33.199658 |
| Longitude | -116.710655 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Arch culvert |
| Culvert distance below road | 20 feet |
| Height | 15 |
| Width | 12 |
| Length | 65 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Potential |
| Describe constraint | Traffic noise. Some periodic human presence. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails. Multiple tracks through culvert. |
| Fencing present? | No |
| Consider for camera? | Yes |
| Camera suggestions | Entrance and exit of culvert. |



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



eastbound



westbound



westbound



westbound



westbound



westbound



westbound



westbound

Comments

This culvert passes beneath SR 76 immediately to the west of the intersection of 76 and 79. It is large, relatively quiet, and with only periodic human presence as evidenced by the presence of graffiti. There are no signs of ongoing human encampment. This large concrete culvert provides an excellent corridor from the north to the south beneath SR 76 on the west side of SR 79.

Management recommendations

Barrier fencing. Fencing and trails to funnel wildlife into this culvert.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 31358 |
| Survey Date | 11/20/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | Temecula Creek Golf Course |
| Drop Point (Lat/Long) | |
| Latitude | 33.469343 |
| Longitude | -117.136093 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 200 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Golf course and commercial buildings lie directly to the east of this location. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | On northbound side of I-15 is the golf course. At the outlet of this culvert lies a large course maintenance outbuilding. This lies approx. 30 Meters to the east of culvert exit. Approx. 10 meters to the east of culvert exit, drainage drops off steeply to another culvert entrance. |
| Other species observed | |
| Structure type | Square culvert |
| Culvert distance below road | 10 meters on east side, 1 meter on west side. |
| Height | 3 |
| Width | 3 |
| Length | 250 |
| Structure floor material | Metal |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Golf course workers may be active during the evening. |
| Constraints | Yes |

| | |
|--|---|
| Describe constraint | Golf course, commercial building and activity on northbound side. Traffic noise. Lighting. Culvert on southbound side is only about 10 meters from freeway, and nearly on same grade. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Misc. birds. There are multiple game trails leading toward culvert entrance on southbound side. |
| Fencing present? | Yes |
| Describe fencing type and height | 5 foot chain link at base of freeway embankment which parallels freeway. This fence also is diverted to run between the freeway and culvert exit on northbound side. Four foot barbed wire in disrepair parallel to freeway approx. 30 west of SB I 15. |
| Consider for camera? | Yes |
| Camera suggestions | At culvert exit northbound side. Culvert entrance southbound side. |



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound



northbound

Date & Time: Tue Nov 20 10:57:31 PST 2018
Position: +033 46952 / -117 13429
Altitude: 1049ft
Datum: WGS-84
Azimuth/Bearing: 338° N22W 8009mils True
Zoom: 1X



northbound

Date & Time: Tue Nov 20 10:57:31 PST 2018
Position: +033 46952 / -117 13429
Altitude: 1049ft
Datum: WGS-84
Azimuth/Bearing: 338° N22W 8009mils True
Zoom: 1X



northbound

Date & Time: Tue Nov 20 10:57:31 PST 2018
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northbound

Date & Time: Tue Nov 20 10:57:31 PST 2018
Position: +033 46952 / -117 13429
Altitude: 1049ft
Datum: WGS-84
Azimuth/Bearing: 338° N22W 8009mils True
Zoom: 1X



southbound

Date & Time: Tue Nov 20 10:57:31 PST 2018
Position: +033 46952 / -117 13429
Altitude: 1049ft
Datum: WGS-84
Azimuth/Bearing: 338° N22W 8009mils True
Zoom: 1X



southbound

Date & Time: Tue Nov 20 10:57:31 PST 2018
Position: +033 46952 / -117 13429
Altitude: 1049ft
Datum: WGS-84
Azimuth/Bearing: 338° N22W 8009mils True
Zoom: 1X



southbound



southbound



southbound



southbound



southbound



BHD 68 SB This camera was moved on 6-10-19 as follows: Uphill from culvert on west side of shrubs facing uphill. This location is on the southbound side of I15.



BHD 68 SB



BHD 161 NB This camera was removed on 12-13-18.



BHD 161 NB This camera was removed on 12-13-18.



BHD 161 NB. This camera was removed on 12-13-18.



BHD 169. SB



BHD 169. SB



BHD 161 new location west of fence. northbound

Comments

Culvert travels downhill from west to east, although the angle is fairly shallow. I would estimate approx. 10 degrees max. The northbound culvert exit lies near end of high golf course netting as it approaches fwy on east side I-15. The culvert travels slightly southwest to west side I-15. New camera placed in rock structure facing culvert on SB side of I-15. Not locked.
Note change in position of BHD 68 on 6-10-19

Management recommendations

Increase culvert diameter. Sound dampening southbound side. Barrier fencing. Directional fencing and trails. Diminish lighting golf course.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 41360 |
| Survey Date | 03/27/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | U079 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 173.66081237793 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 4 feet |
| Height | 1 |
| Width | 1 |
| Length | 45 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Diameter of culvert too small for larger wildlife. Traffic noise. Culvert entrance on northbound side is adjacent to road. Crossing at grade for larger wildlife. |
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire 15 meters to the west of and parallel to SR 79. |
| Consider for camera? | No |



northbound



northbound



northbound Blocked, small diameter culvert entrance



northbound



northbound



northbound



northbound



notthbound



southbound



southbound



southbound



southbound



southbound



southbound

Comments

Terrain and landscape conducive to wildlife travel east and west. However, inadequate crossing structure allows for crossing at grade only at this time. Steep embankment on east side creates difficult situation for construction of larger culvert under road. Culvert opening on west side is more accessible. The location surveyed is approximately 30 meters south of coordinates given for U079. Culvert mostly blocked at both ends by leaves and debris. Carrista Creek drainage lies to the west of SR79.

Management recommendations

Barrier fencing. Wildlife crossing signs.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 19102 |
| Survey Date | 07/23/2018 |
| User | Rich Codington |
| Highway name | Old 395 |
| Location | U088 |
| Drop Point (Lat/Long) | |
| Latitude | 33.277425 |
| Longitude | -117.153516 |
| Speed | -1.0 m/s |
| Direction | 291.855987548828 degrees from N |
| Altitude | 189.781982421875 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180+ |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | To the west of this location lies I-15, and large sparsely vegetated open slopes. Crossing here would require crossing 395 and I-15 at grade. Area above I-15 on southbound side consists of ag and residential development. Terrain ranges from 150 + foot elevation on west to 20 below grade on west side of 395 onramp. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | This crossing lies at a complicated intersection of roads. The west side of 395 consists of a long exposed downslope which lies underneath an overpass above I-15. This leads to 8 lanes of I-15 freeway as an onramp. 395 continues to the northwest as an overpass immediately to the south of this location. To the west of I-15 there is the typical open steep graded slope adjacent to the freeway. Approximately 150 feet above the freeway on the west side is agricultural and residential development. |
| Other species observed | |
| Structure type | |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | Seasonal |
| Human presence likely at night? | Unknown |
| Constraints | Yes |

| | |
|--|---|
| Describe constraint | Crossing of I 15 to the east is at grade. Crossing of 395 currently at grade. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | 5 foot barbed wire fencing running north south approx. 100 feet east of 395 onramp. Perpendicular to this crossing. |
| Consider for camera? | No |

Photos



NB



NB



NB



NB



NB



NB



SB 395



SB 395



SB 395



SB 395



SB 395

Comments

On east side, evidence of human encampment. The northbound side of 395 here offers a reasonable corridor leading to the east from this location. The corridor on the east side ends abruptly at a 20 foot upslope to 395 here. There is no indication of a culvert

traveling underneath 395 here. The west side of 395 drops gradually approx. 100 feet toward I-15. Minimal vegetative cover here. This leads to the multi lanes of I 15 which travel beneath the 395 overpass here. This crossing is actually at a long onramp from 395 to northbound I-15. Photos were taken on east and west side of 395 onramp to I 15 at this location

Management
recommendations

Fencing on east side of this location to prevent wildlife from attempting to cross from east to west.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 63050 |
| Survey Date | 11/18/2019 |
| User | Rich Codington |
| Highway name | Other |
| Highway number if not listed | Valley Center Road |
| Location | U108 |
| Drop Point (Lat/Long) | |
| Latitude | 33.197709 |
| Longitude | -117.030833 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | 4 lane separated |
| Estimated width of road from one pavement edge to the other | 100 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | Yes |
| Describe human presence potential | Residential close by. Heavy 24 hour traffic. |
| Constraints | Yes |
| Describe constraint | This is a very busy, highly trafficked Highway. No crossing structure. Concrete barrier on southbound side. Concrete barrier in median. Cyclone fencing southbound side. Low density residential housing to northeast and northwest. Major traffic noise. |
| Evidence of other animals? | No |
| Fencing present? | Yes |

Describe fencing type and height

6 foot chain link on southbound side next to road extending to north.

Consider for camera?

No

Photos



northbound



northbound



northbound



northbound

Comments

There is no crossing structure here, and due to heavy high speed traffic, as well as concrete and fence barriers on the southbound side, this location is currently a poor crossing location. The embankment to the west is a steep drop of 100 plus meters at about 45 degrees. Difficult location to create an adequate crossing structure. Heavy traffic noise along with lights. Due to concrete and fence barriers on southbound side, as well as no shoulder and heavy traffic, I was unable to access this side for photographs.

Management recommendations

Wildlife crossing signs.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 63052 |
| Survey Date | 11/18/2019 |
| User | Rich Codington |
| Highway name | Other |
| Highway number if not listed | Valley Center Road |
| Location | U114 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 172.148910522461 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 4 lane separated |
| Estimated width of road from one pavement edge to the other | 100 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Square culvert |
| Culvert distance below road | 15 feet |
| Height | 12 |
| Width | 12 |
| Length | 110 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Potential |
| Describe constraint | Traffic noise. Infrequent human presence. Graffiti present, but no evidence of human encampment. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Multiple game tracks through culvert. Game Trails. |
| Fencing present? | Yes |

| | |
|----------------------------------|---|
| Describe fencing type and height | 8 foot cyclone fence to the north and south on southbound side. This is present to deter inclusion into culvert. 8 foot cyclone fence to north and south parallel to highway. |
| Consider for camera? | Yes |
| Camera suggestions | At exit and entrance to culvert. |



southbound



southbound



southbound



southbound



southbound



southbound



southbound



northbound



northbound



northbound



northbound

Comments

This is an excellent crossing location. Large accessible culvert with natural corridor habitat to east and west. Traffic noise somewhat subdued due to depth of culvert. Good barrier fencing present. This location is approximately 125 meters south of the

coordinates given for U 114. That location has no crossing structure and is currently a poor location for wildlife crossing.

Management
recommendations

Directional fencing and trails to lead wildlife to this crossing location.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 19533 |
| Survey Date | 07/26/2018 |
| User | Jamie Bourdon |
| Highway name | I-15 |
| Location | U119 |
| Drop Point (Lat/Long) | |
| Latitude | 33.458242 |
| Longitude | -117.136089 |
| Speed | 2.88000011444092 m/s |
| Direction | 17.7243099212646 degrees from N |
| Altitude | 372.727298736572 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 188 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 10 |
| Height | 4 |
| Width | 4 |
| Length | 220 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Unable to see through culvert. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Rodent droppings, game trails. |
| Fencing present? | No |
| Consider for camera? | Yes |
| Camera suggestions | At least 1 camera west side of culvert at intersection of game trails. |

SB



SB



SB



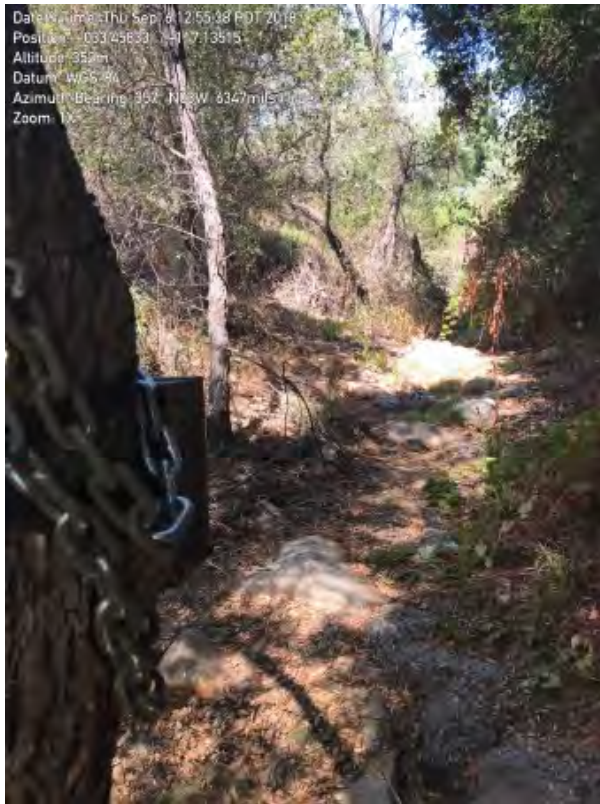
SB



Southbound I15 camera view at 33.45699,-117.13667 This camera (C22) relocated on 10-25-18



camera location as noted in photo #5 Southbound U119 This camera C22, relocated on 10-25-18



East camera: Cam-4. less than 10 meters south of Culvert.



Cam #4 Northbound. 10 M south of culvert



Camera #C22 moved to this new location on 10-25-18



Camera # C22 moved from uphill location to this area facing culvert on 10-25-18



New camera, DOC 2, placed at newly discovered culvert approximately 50 meters north of previously described culvert to the south at U119 Southbound.



Camera placed, DOC 2, on 5-3-19. This is newly discovered culvert approximately 50 meters north of previously described culvert at U119 Southbound.

Comments

Good travel corridor to the west. Nature Conservancy land to the East. Another culvert, approximately 50 meters north of previously described culvert on Southbound I15, was recently discovered. A new camera, DOC 2, was placed here on 5-3-19. This culvert is larger in diameter, does not appear to drop at such a steep angle, but does not allow through and through visibility to the northbound side of I15. It would appear to be a promising corridor. Camera C22 removed from SB side 7-1-19.

Management recommendations

Enlarge and alter grade of culvert to provide better visual access. Planned fencing to begin 2018/2019

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 18843 |
| Survey Date | 07/20/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | U148 |
| Drop Point (Lat/Long) | |
| Latitude | 33.450495 |
| Longitude | -117.134977 |
| Speed | 1.22000002861023 m/s |
| Direction | 40.4446983337402 degrees from N |
| Altitude | 386.380674705489 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 15 |
| Height | 3 |
| Width | 3 |
| Length | |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Current crossing at grade. At the specific U148 location, there are steep upward embankments on NB and SB sides which currently offer no natural cover for wildlife. At camera location, slightly south of site evaluated, on Northbound side, there is a drainage flowing out of a canyon toward the camera location as noted. This provides excellent habitat for travel from the East. On southbound side of I15 here is good migratory habitat as well. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Minor indication of game Trails adjacent to area. Further south by culvert are additional game Trails. The southern location is where cameras are placed. There may be wildlife |

travel in the streambed/drainage to the north of U148 where camera C49 is located.

| | |
|----------------------------------|--|
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire in some disrepair approx. 50 meters from I15 Northbound and Southbound which parallels the freeway. |
| Consider for camera? | Yes |
| Camera suggestions | Possibly by culvert south of crossing location previously noted. |



NB



NB



NB



NB



SB



NB



SB



NB



NB



SB



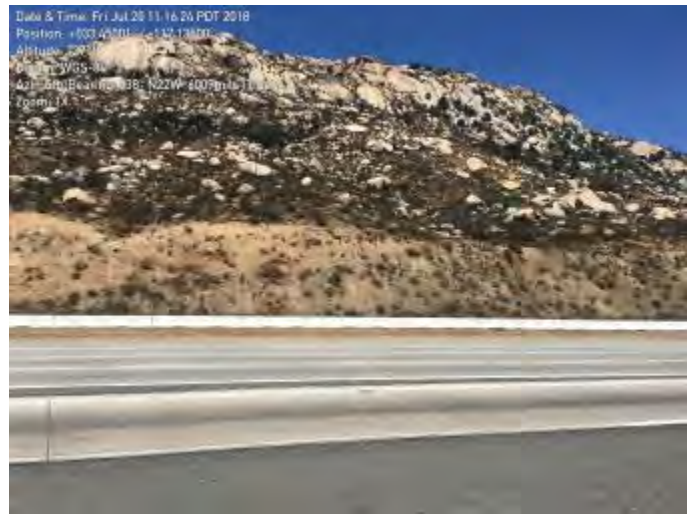
NB



SB



NB



NB



NB



SB



NB



Camera SANDAG 10 Eas of U148 along draw



Camera C-18. Outside culvert SE of U148 This camera replaced with CAM 12 on 9-10-19.



camera C49 In streambed approx. 200 yards north of U148. on NB I15



view from camera C49 in streambed north of U148 noted above in photo #20



Camera C23 Located north east of culvert at U148



View from camera C23 located north east of culvert at U148



cam C49 new location



cam C49 new location



cam C49 new location

Comments

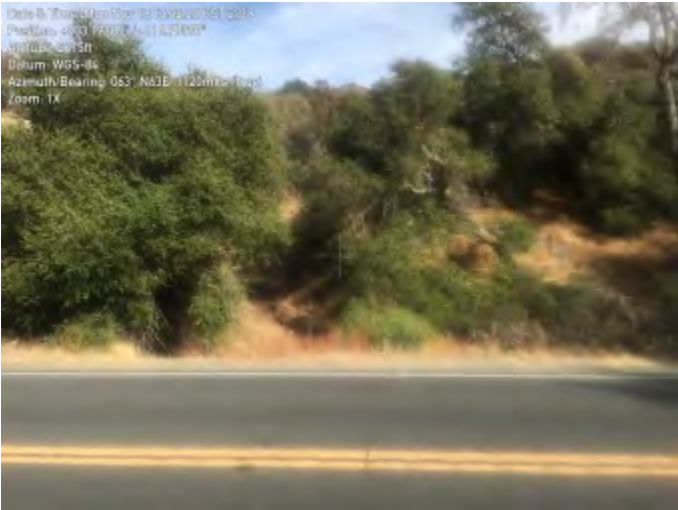
Site U148 was evaluated essentially as three locations. One, at the specific GPS location noted in the file for U148. Two, at the culvert location slightly south of the file location for U148, and three, approx. 200 yards north of the U148 location where camera C49 is positioned. Northbound: Crossing here currently at grade. Culvert 50 meters south of crossing point running to south, and has narrow access. May just parallel I15. Unknown outlet location. Steep embankment rises approx. 25 feet above fwy on NB side to a heavily vegetated , but open, area at approx. same elevation as equivalent area on SB side of I-15. The CHP/ Border Patrol Station lies on NB I15 side approx. 300 meters south of U148. On southbound shoulder, 10 meters from fwy., there is a vertical culvert 3 feet in diameter which descends 10 feet to horizontal 3 foot diameter metal culvert. This culvert appears to be directed underneath the freeway to the east and underneath the steep upward embankment to the west. Landscape on east and west sides of freeway here provides excellent habitat for travel corridor. An additional camera was placed, approximately 200 yards north of the culvert location previously described, in a streambed to the east of the freeway. This is camera C49. Camera C18 failed and was replaced with CAM 12 on 9-10-19.

Management recommendations

At this crossing point, undercrossing potential is questionable. There are culverts on both sides of freeway, but neither one appears to be amenable to wildlife travel across I15 as is. Steep downslope to freeway on SB side and northbound side . It may be worth searching for SB side culvert exit south of here to determine connectivity from NB to SB via culvert, and to further evaluate feasibility of expanding culvert undercrossing here. Consider construction of wildlife overpass here with directional fencing. If overpass considered, an evaluation of traffic noise at either end of overpass recommended. As noted, further evaluation for undercrossing at culvert location should be considered.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 63069 |
| Survey Date | 11/18/2019 |
| User | Rich Codington |
| Highway name | 79S |
| Location | U149 |
| Drop Point (Lat/Long) | |
| Latitude | 0.0 |
| Longitude | 0.0 |
| Speed | 0.0 m/s |
| Direction | 215.939529418945 degrees from N |
| Altitude | 0.0 m |
| Accuracy | 0 m |
| Surveyor | Rich |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Crossing at grade. Traffic noise. Steep downhill slope on southbound side. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |



southbound



southbound



southbound



southbound



southbound



northbound



northbound



northbound



northbound

| | |
|----------------------------|--|
| Comments | Currently inadequate corridor due to lack of crossing structure. Traffic is fairly light in this area, although traveling at high speeds. Good crossing at P100 approx. 300 meters north. Embankment too shallow on northbound side to consider construction of wildlife undercrossing here. |
| Management recommendations | Wildlife crossing signs, barrier fencing. Directional fencing to P99, P100. |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 15528 |
| Survey Date | 06/19/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | WS10 |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 170 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Open sage scrub on west side provides limited cover. Heavier vegetation on east side. Crossing at grade. Two small canyons on east side. There is adequate travelway at western edge of this open space. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | Yes |
| Describe human presence potential | Residential property 500 meters downslope on west side. |
| Constraints | Yes |
| Describe constraint | Need to cross 395 prior to reaching crossing at west side of I 15. West side open terrain with minimal vegetation for cover. Refer to survey of site Ws10-1 which is on 395. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails, multiple on west side open area. |

| | |
|----------------------------------|--|
| Fencing present? | Yes |
| Describe fencing type and height | Intermittent barb wire fencing 4 feet high on west side. |
| Consider for camera? | |



southbound I15



Southbound I 15



southbound



southbound



I-15 northbound



southbound



I-15 northbound



northbound



northbound



northbound I 15

Comments

Any crossing at this location would also require crossing 395 to the west to access corridors at west side of this location. Any assessment would have to consider constraints present at ws10-1. Large 45 degree DG slope on east side of freeway. Approx. 100 meters to north is well vegetated and protected canyon. Refer to Ws10-2. Ws10-2 would be likely eastern linkage to this site.

Management recommendations

Large culvert would have to be at bottom slope west side adjacent to locations at ws10-1. Not practical to have culvert at interstate grade level. Directional fencing needed on west side.
 After investigating East side, possible enlarging of culvert at WS10-2 and utilizing directional fencing on both sides of freeway to this culvert.

SA-PAL survey

| | |
|---|---------------------------------------|
| Project | SA-PAL project |
| ID | 15529 |
| Survey Date | 06/19/2018 |
| User | Rich Codington |
| Highway name | Old 395 |
| Location | WS10-1 |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 40 feet |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | |
| Height | 3 |
| Width | 3 |
| Length | 70 |
| Structure floor material | Concrete |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Potential |
| Describe constraint | From west steep climb up to culvert |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trail evidence of road kill odor |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barb wire upslope on east side |
| Consider for camera? | |



Date & Time: Tue Jun 19 14:02:14 PDT 2018
Position: +033.37590° / -117.17237°
Altitude: 828ft
Datum: WGS 84
Azimuth/Bearing: 234° S54W 4160mils (True)
Zoom: 1X



Date & Time: Tue Jun 19 14:02:45 PDT 2018
Position: +033.37595° / -117.17235°
Altitude: 828ft
Datum: WGS 84
Azimuth/Bearing: 054° N54E 0960mils (True)
Zoom: 1X



Date & Time: Tue Jun 19 14:02:45 PDT 2018
Position: +033.37595° / -117.17235°
Altitude: 828ft
Datum: WGS 84
Azimuth/Bearing: 054° N54E 0960mils (True)
Zoom: 1X







Comments

Old Highway 395. N33.37587, -117.17245
Assign Ws10-1. Two adjacent sites.

Management recommendations

Potentially larger culvert and directional fencing. 2nd crossing about 100 meters north of this location which has no culvert. Photos taken there. Some concern regarding private property on east side adjacent to crossing. Leading to Ws10 from west.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 19485 |
| Survey Date | 07/26/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | WS2N |
| Drop Point (Lat/Long) | |
| Latitude | 33.463502 |
| Longitude | -117.137004 |
| Speed | 0.0 m/s |
| Direction | 7.68046045303345 degrees from N |
| Altitude | 347.395511627197 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 15 |
| Height | 4 |
| Width | 4 |
| Length | 450 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Traffic noise. Can't see through to other side. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails |
| Fencing present? | Yes |
| Describe fencing type and height | 4 foot barbed wire running parallel to I15 on Sb side approx. 100 west of I-15. 4' intermittent Barbed wire directional and barrier fencing on NB side 200' off road outside culvert. |

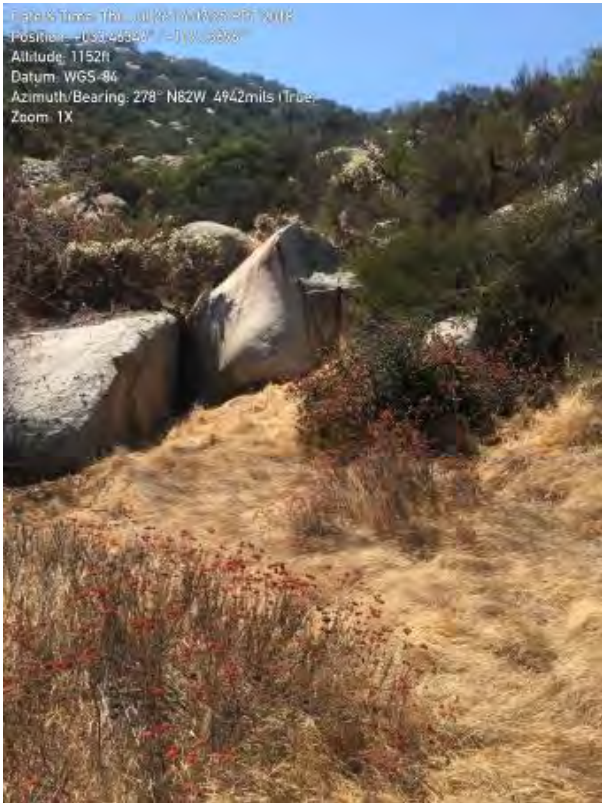
| | |
|----------------------|--|
| Consider for camera? | Yes |
| Camera suggestions | To visualize trails leading to culvert opening on SB side of I-15. 2 cameras outside culvert on NB. 1 camera inside culvert by gradient change. |



SB



SB



SB



SB



SB



SB



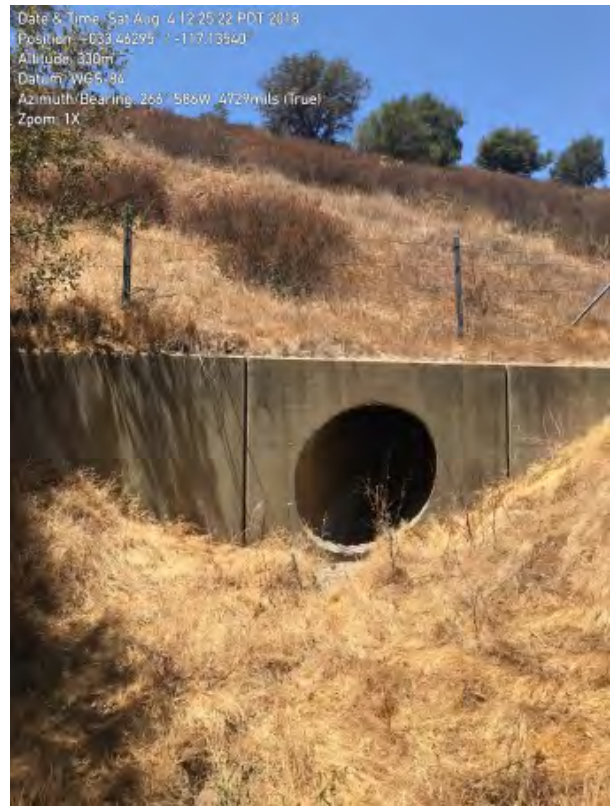
SB



SB



3/4 through culvert before 15 degree drop to eastern side.
 Potential camera placement



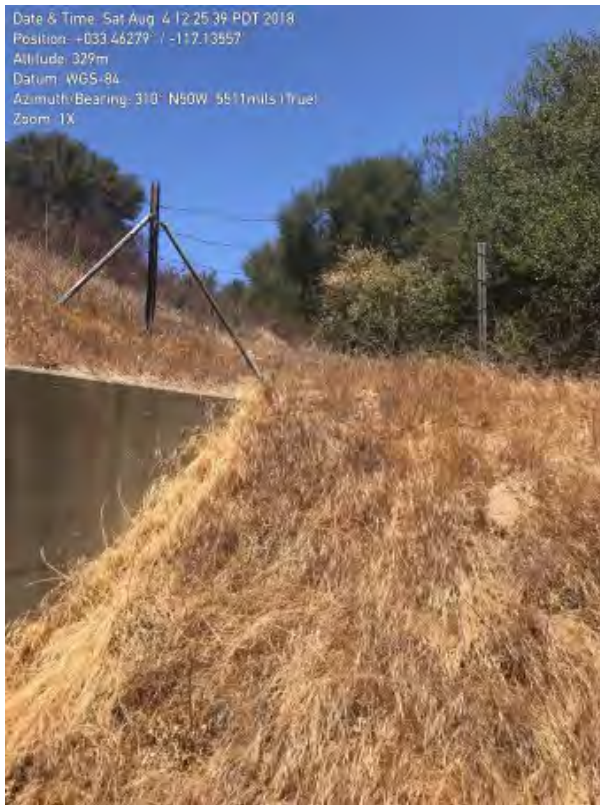
NB



NB



NB



NB



NB outside culvert



NB outside culvert



NB



West side Cameras: C-18 & C-22. Removed due to mass triggers.



East side camera c-21



East side camera c-19



New camera locations for cameras: BHD 96, JO25



camera location for BHD 96 and JO 25



camera location for BHD 96 and JO 25. Aimed at culvert access.

Comments

Culvert opening is larger than most but can't see through. Close to freeway with high noise level. Canyon approach with good cover vegetation on SB. Culvert at base of steep 15 foot slope approx. 30 meters from I-15 SB. North bound side has relatively minimal noise. Culvert opening is in close proximity to golf course catering/event area. Excellent riparian corridor to East. Culvert does not cross under I-15 perpendicular. Approx 16-18 degrees. Approx 300' of culvert does not slope, final 150' has 15 degree drop. Western half of culvert has concrete floor then original metal flooring. Cameras BHD 96 and JO25 removed from southbound side. Camera C21 removed from northbound side on 9-10-19.

Management recommendations

Expand and alter either WS2N or WS2S culvert to provide adequate wildlife undercrossing with visible access on either side. Directional and barrier fencing on other culvert to divert access to whichever culvert is more accessible.

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 19534 |
| Survey Date | 07/26/2018 |
| User | Jamie Bourdon |
| Highway name | I-15 |
| Location | WS2S |
| Drop Point (Lat/Long) | |
| Latitude | 33.462113 |
| Longitude | -117.137108 |
| Speed | 0.0 m/s |
| Direction | 49.8482322692871 degrees from N |
| Altitude | 353.193607330322 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 188 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 25 |
| Height | 6 |
| Width | 6 |
| Length | 350 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Unable to see through culvert. East side has sloped heavy rip-rap material. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trail |
| Fencing present? | Yes |
| Describe fencing type and height | Broken 3' barbed wire fencing 50' away from culvert parallel to SB. |
| Consider for camera? | Yes |



SB



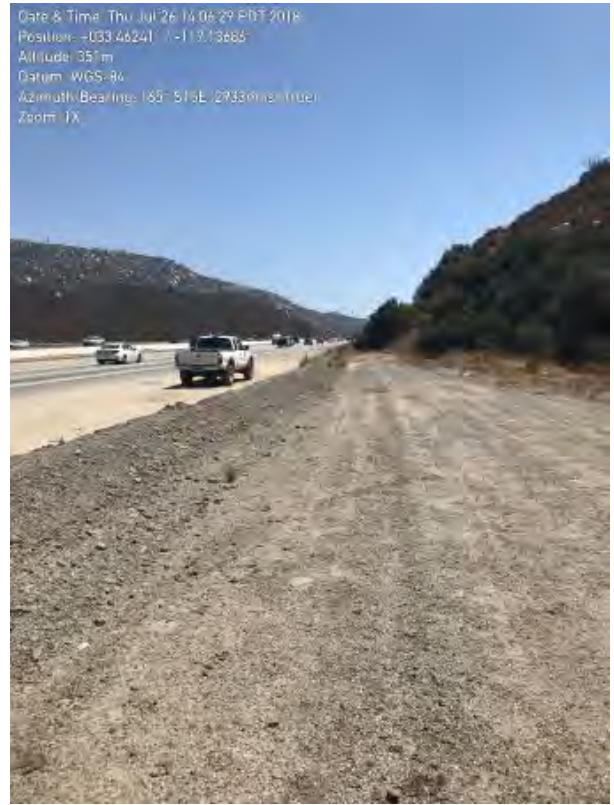
SB



SB



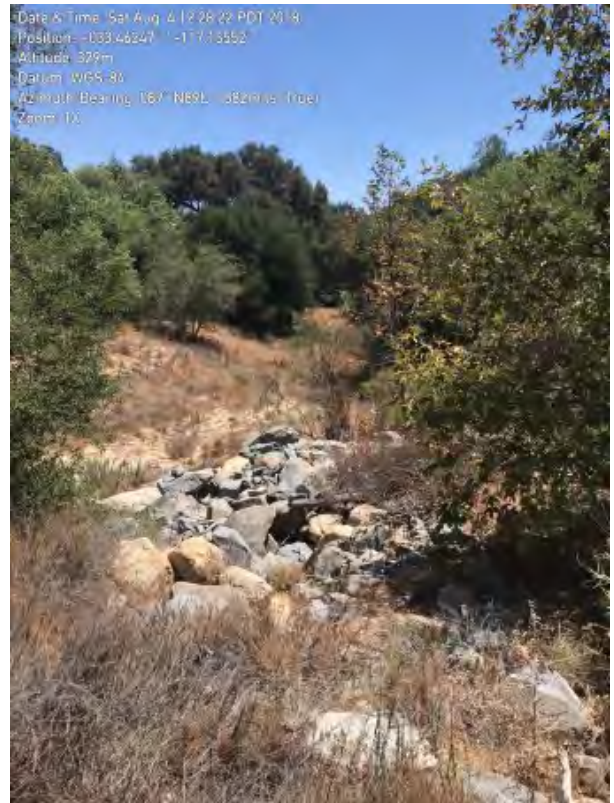
SB



SB



NB



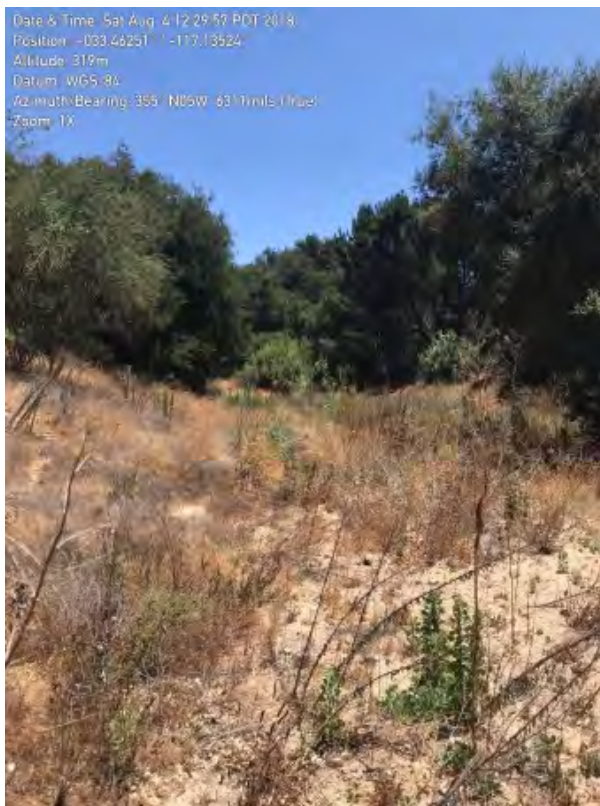
NB



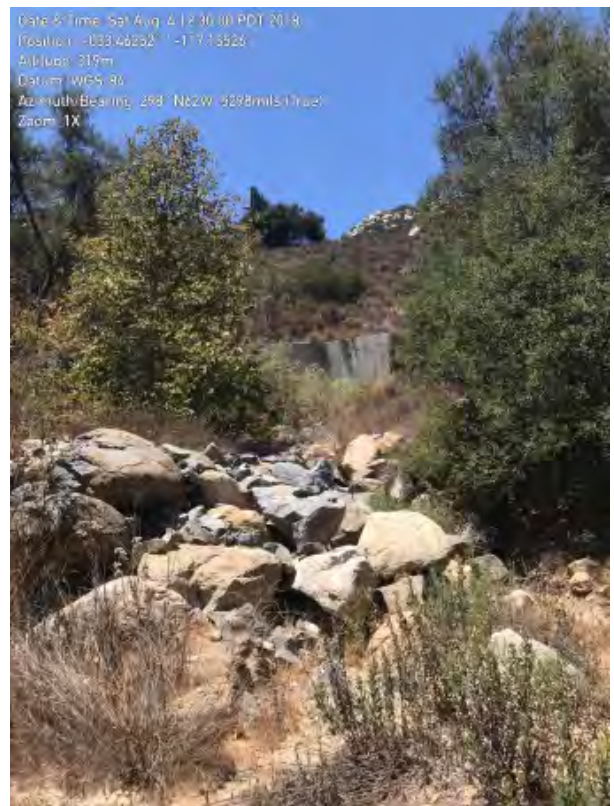
NB



NB



NB



NB



West Side Camera: C-20



West Side Camera: C-25



East side camera BHD-153



East side camera northbound camera # JO 09



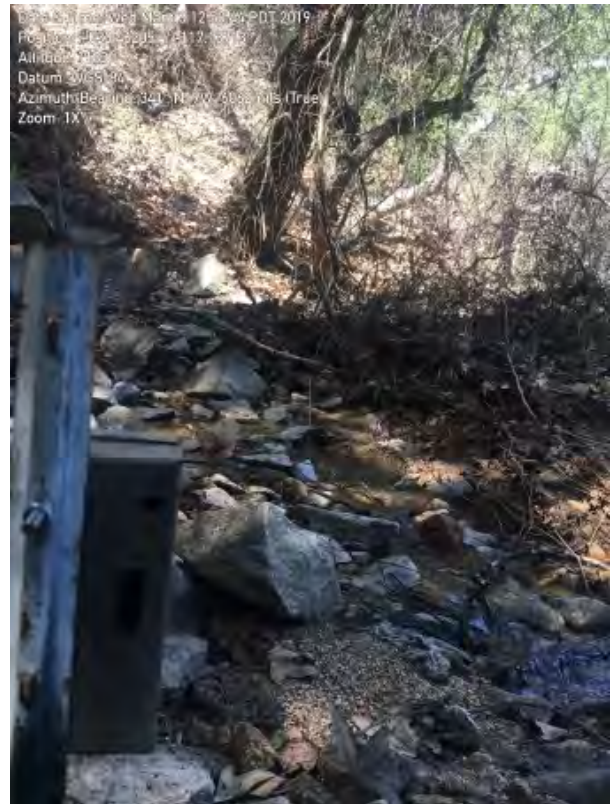
east side camera (NB) camera # JO 09. Repositioned 3-9-19. Now facing toward culvert.



JO 09 new location as of 3-9-19



JO 09 new location as of 3-9-19 This camera, JO-09, was moved 6-10-19. New placement is as follows: follow streambed to east of riprap by culvert approximately 40 meters. Where it bends to the north (left) at the east end, look to the left. Camera is on green post on right side of of sand pointed to the southwest. Chained and locked to bush. see new photo for Nav cam co-ordinates



BHD 202 new camera southbound. Placed 3-13-19, replacing camera C25



BHD 202 new camera southbound. Placed 3-13-19, replacing Camera C25



New placement of JO 09 as of 6-10-19 Description of location in notes above.



Photo of camera C30. This was old camera C20 which has been renamed to C30. It was placed on 7-1-19 to replace Camera BHD 153 which had become non functional



camera view JO 09 new placement as of 8-21-19



camera JO 09 as of 8-21-19

Comments

Great travel corridors on both sides of road. Minimal sound pollution on both sides. Culvert larger on East side, almost 8' in DIA. Approx 300' of culvert does not gradient. At approx 300' has 30' @ 24 degree drop then

decreases to 20 degrees until end. Eastern half of culvert has concrete bottom. Resident bats in Western half of culvert.

Need to add at least 2 more cameras on East side. Camera #C25 was washed away in 2-14-19 storm.

Note new placement of JO-09 as of 6-10-19. Camera JO 09 repositioned on 8-21-19. Note new location in NAVCAM photo 8-21-19.

Management
recommendations

Between WS2N and WS2S, one culvert should be enlarged and altered to provide visual access “see through” culvert. Culvert bottoms should be concrete or material other than original culvert ribbed metal. Fencing to redirect use of improved undercrossing. Exclusion fencing along I-15 to begin 2018-2019.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 20120 |
| Survey Date | 07/31/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | WS3 |
| Drop Point (Lat/Long) | |
| Latitude | 33.455865 |
| Longitude | -117.13622 |
| Speed | 0.0 m/s |
| Direction | 296.281066894531 degrees from N |
| Altitude | 388.025638580322 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 10 feet to 40 feet. |
| Height | 5 |
| Width | 5 |
| Length | 250 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | On SB side, natural terrain drops to level of I-15. Crossing at grade. Can't see through culvert. Traffic noise. Angle of culvert. |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails leading to culvert |
| Fencing present? | Yes |
| Describe fencing type and height | SB: 6 foot open iron structure approx. 30 feet from culvert opening. See photo. 4 foot barbed wire 50 meters from SB I-15 paralleling fwy. |

| | |
|----------------------|---|
| Consider for camera? | Yes |
| Camera suggestions | West of culvert in drainage area on SB I-15. East of culvert in drainage area on NB I-15. |



SB



SB



SB



SB



SB



SB



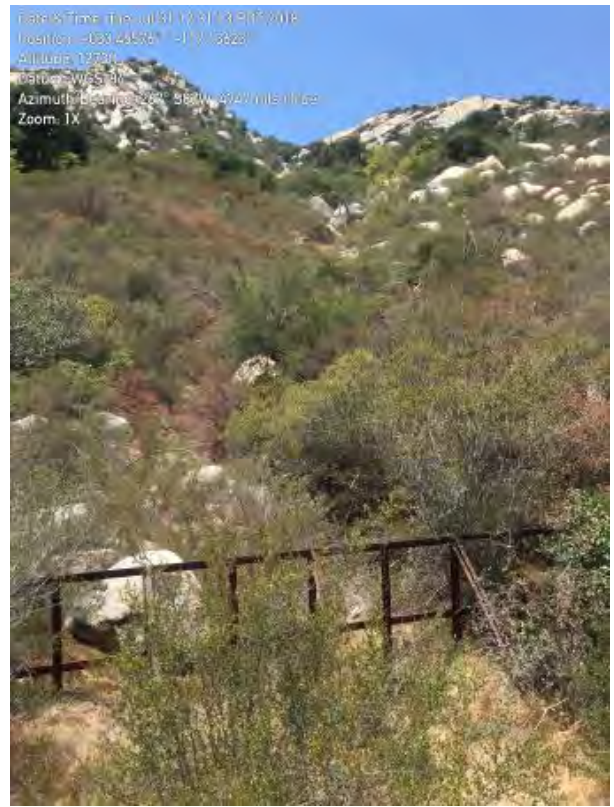
SB



SB



SB



SB



SB



NB



NB



NB



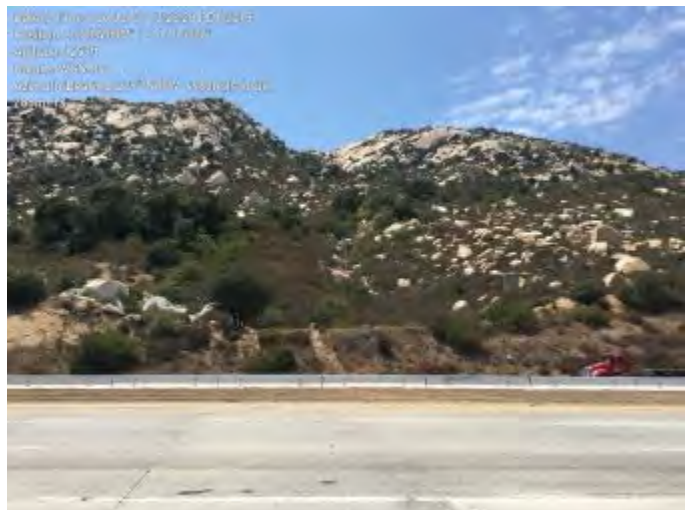
NB



NB



NB



NB



NB



Southbound culvert (camera view)



Camera # C5 facing culvert on Southbound side WS3 This camera replaced as of 3-13-19



camera # 3 new placement southbound. replaces C5



Camera # C3 southbound. replaces C5



WS3 northbound camera view into culvert DOC6



WS3 Northbound camera DOC6

Comments

On SB side, there is a culvert potentially accessed by vertical approach. Covered with barred grate. Appears to drain east-west. It is about 5 meters from edge of SB I 15. Approx. 25 meters to the west of this grate on the other side of embankment to west lies horizontal opening to the culvert. The vertical shaft I noted adjacent to SB side allows penetration of daylight. Although there is no through and through culvert visibility, this shaft of illumination allows daytime visibility from culvert entrance to that lit area. There is a drainage leading westward up a well vegetated and bouldered hillside. This climbs several hundred feet to the west and appears to be amenable to wildlife travel. Culvert opening is approx 50 feet to east of NB I-15, and 50 feet below grade of freeway. Opening here is 5 feet wide, but 3.5 feet high due to sedimentation accumulation. To the east-lies a good corridor of heavy chaparral. There is a vertical access shaft to this culvert similar to that one on SB side which lights the culvert at this point adjacent to the NB freeway. Light is visible at this point from east side culvert opening. Camera DOC6 placed

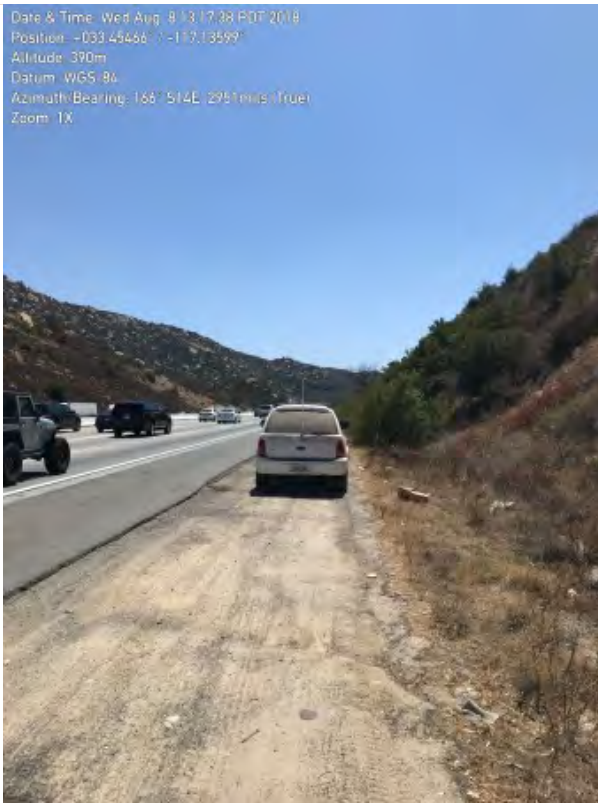
Management
recommendations

SB: Barrier fencing. Directional fencing to culvert access. Adding vertical shafts where possible, ie. Median area, to add light to culvert. Perhaps having culvert lit would help overcome inability to see to other end. Traffic noise is not too bad here due to culvert access placement, but sound dampening may be helpful. NB: barrier fencing to prevent direct freeway access. Directional fencing to culvert access. Increase diameter of culvert. Analyze angle of culvert west to east to determine if angle of travel is too steep. Add vertical shafts for illumination.

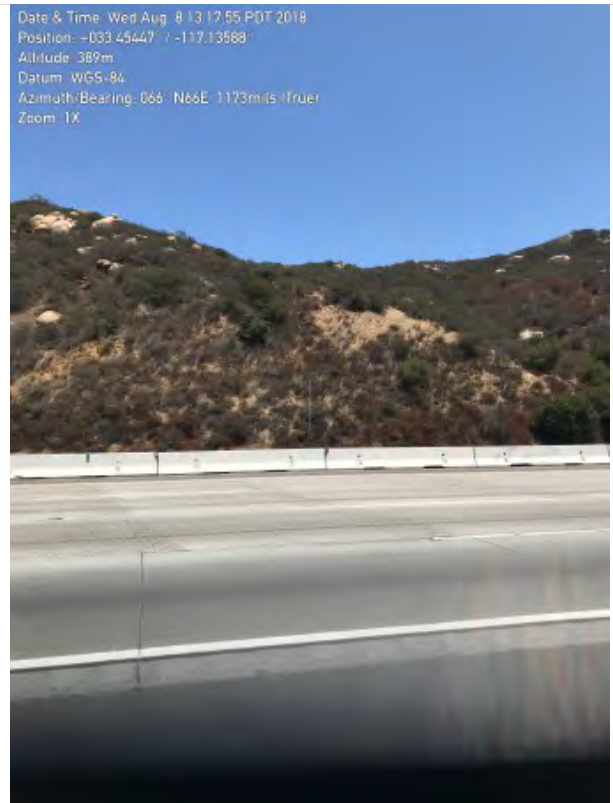
SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 21200 |
| Survey Date | 08/08/2018 |
| User | Jamie Bourdon |
| Highway name | I-15 |
| Location | WS4 |
| Drop Point (Lat/Long) | |
| Latitude | 33.454338 |
| Longitude | -117.135932 |
| Speed | 0.0 m/s |
| Direction | 17.8004035949707 degrees from N |
| Altitude | 390.243534088135 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | unknown |
| Height | 4 |
| Width | 4 |
| Length | 220 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | steep downward slope of culvert, traffic noise, no obvious culvert exit on northbound side. This culvert may join with culvert from WS3 somewhere beneath freeway |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | multiple game trails |
| Fencing present? | Yes |
| Describe fencing type and height | Intermittent fencing at the top of both slopes. |

| | |
|----------------------|----------------------------------|
| Consider for camera? | Yes |
| Camera suggestions | culvert entrance southbound side |



southbound



southbound



southbound



southbound



southbound camera at culvert WS4 #B78



southbound



southbound



southbound



southbound

Comments

Replaced camera number 701 with # B78 on 12-10-18. #701 was Amy's camera. It was returned to her.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 19892 |
| Survey Date | 07/30/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | WS5-ctr |
| Drop Point (Lat/Long) | |
| Latitude | 33.465253 |
| Longitude | -116.972311 |
| Speed | 0.839999973773956 m/s |
| Direction | 109.134330749512 degrees from N |
| Altitude | 476.085880279541 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Freeway traffic only. Truck stop to south. |
| Constraints | Yes |
| Describe constraint | High, steep hillsides on northbound and southbound sides. Crossing currently at grade. High level of traffic noise. This location is also at the level of northbound truck stop onramp to I 15. Trucks tend to park on NB shoulder near onramp after exiting truck stop. |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | No |

Photos



NB



NB



SB



SB



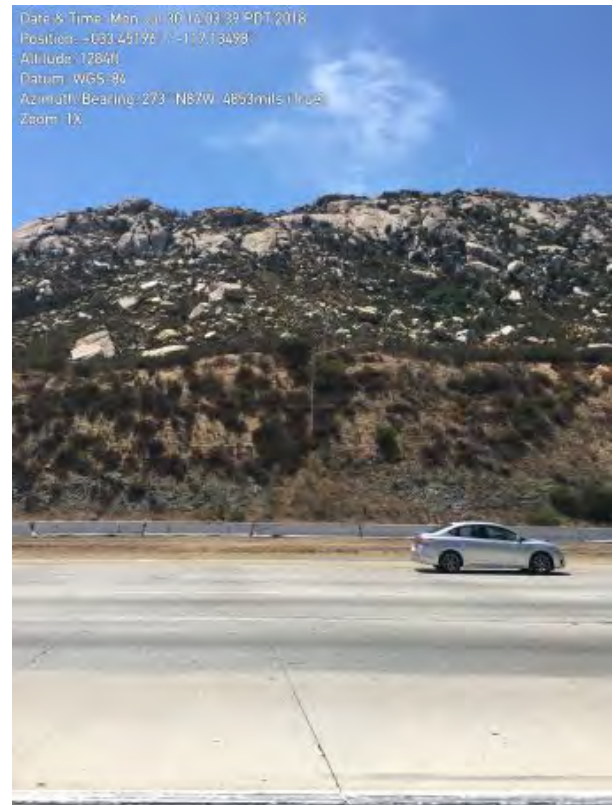
NB



SB



SB



NB



NB



NB



SB

Comments

The landscape on both sides of I 15 here is natural in appearance, chaparral in character, and has many natural features which could be considered as cover. The final approach to the freeway on the southbound side is a relatively barren 60+ degree slope which terminates at edge of freeway. Crossing here is currently at grade. There is a natural rise of 200+ feet on the west side of I-15 with the peak on the east separated from a peak on west by several hundred yards. Elevation on the east side is variable, but appears to be about 30 meters at this location. The crossing from the northbound side is currently at grade. There is a plateau on the southbound side of I-15 approx. 15 meters above level of road surface. This is probably approx. 10 meters to the west of I-15.

Management recommendations

Barrier fencing to prevent wildlife crossing-on northbound and southbound sides. Consideration for wildlife overpass type crossing.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 20924 |
| Survey Date | 08/08/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | WS6 |
| Drop Point (Lat/Long) | |
| Latitude | 33.445976 |
| Longitude | -117.136125 |
| Speed | 0.0 m/s |
| Direction | 317.7431640625 degrees from N |
| Altitude | 382.612156071744 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Truck stop and Border Patrol Station on NB side. Busy trucks only offramp directly east of NB lanes. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | Border Patrol NB side. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 20 |
| Height | 3 |
| Width | 3 |
| Length | |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | Truck weigh station and Border Patrol Station on NB side of I-15. |
| Constraints | Yes |
| Describe constraint | BP Station. Truck weigh Station. Noise and multiple bright lights. Crossing currently at |

grade. Unable to see through culvert. Noise at level of SB side culvert is moderate. Entrance is 8 meters from road at bottom of embankment.

| | |
|--|--|
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game Trails. |
| Fencing present? | Yes |
| Describe fencing type and height | 8 foot chain link topped with barbed wire paralleling I-15 between freeway and truck offramp. 4 foot barbed wire parallel to I-15 SB in disrepair. About 20 meters from freeway. |
| Consider for camera? | No |



SB



NB



SB



SB



SB



SB



SB



SB



SB



NB



NB



NB



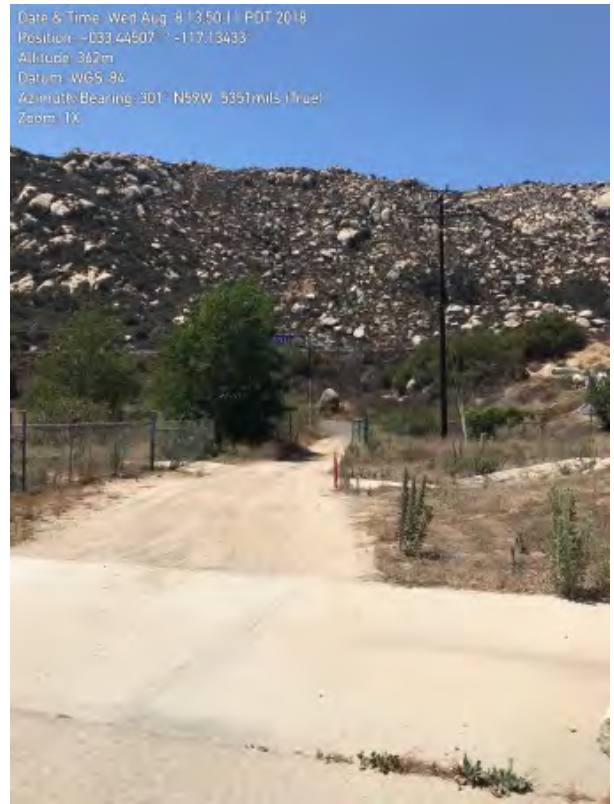
NB



NB



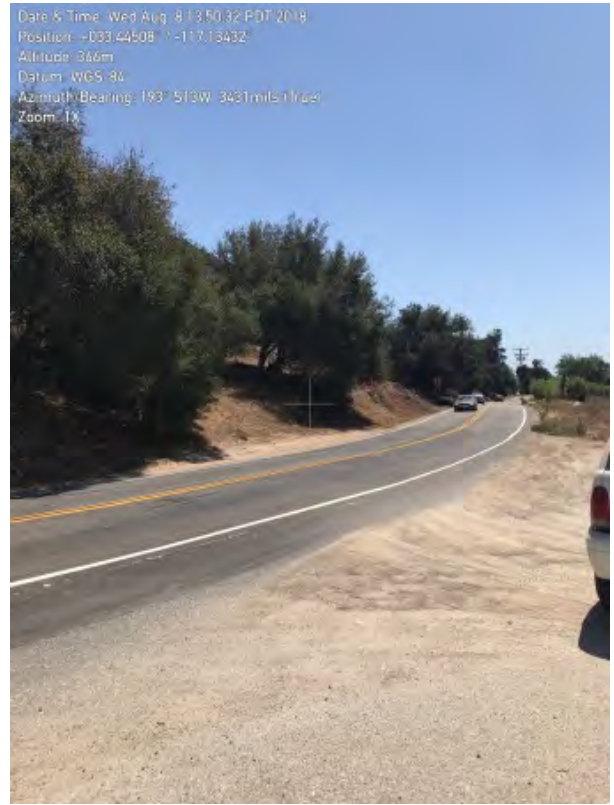
NB



395



395



395



395



395

Comments

There is a vertical access to culvert on NB I-15 shoulder here. Culvert appears to cross approx 2meters under I-15 here. No access to possible culvert opening east of here due to fencing and truck lane, this unable to locate culvert opening on NB I 15. Natural but

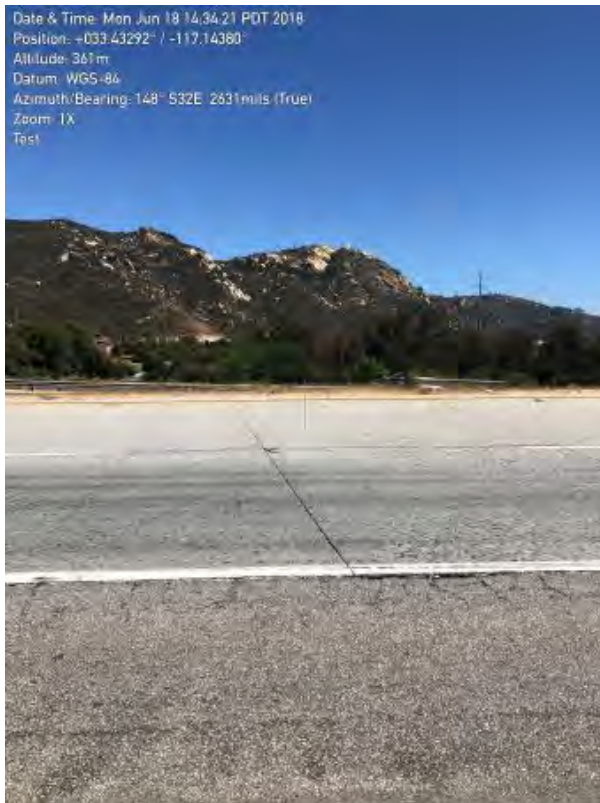
steep terrain on SB side. Heavy boulder coverage. This is post burn area. Small ravine terminates here. There is culvert access on SB side as noted. Stop by CHP scale station to discuss access to East side between I-15 and scale ingress as well as area on other side of fencing to 395.

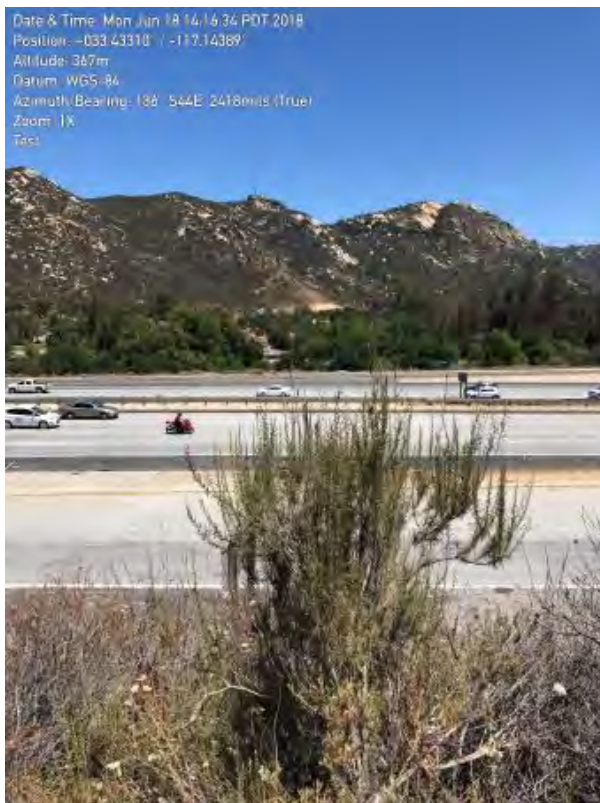
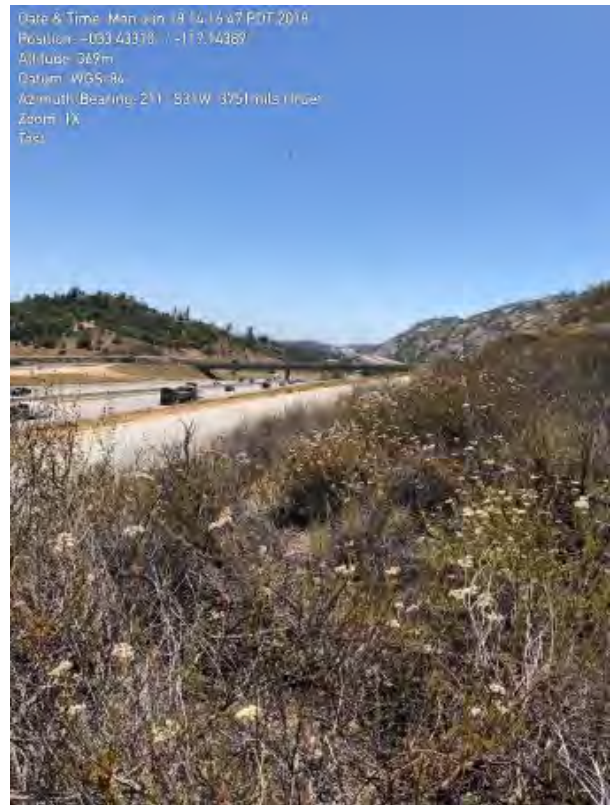
| | |
|----------------------------|--|
| Management recommendations | If possible to locate culvert access on NBside, consider enlarging culvert underneath I 15. Constraints on NB side seem considerable. Barrier fencing. |
|----------------------------|--|

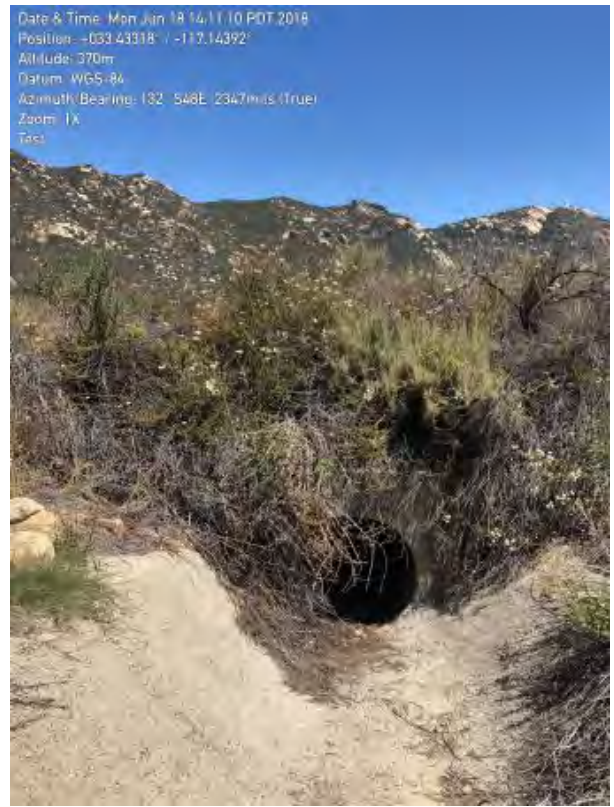
SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 15489 |
| Survey Date | 06/18/2018 |
| User | winston vickers |
| Highway name | I-15 |
| Location | WS8a |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Winston |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | <i>Canis latrans</i> / Coyote |
| Structure type | Round culvert |
| Culvert distance below road | |
| Height | 3 |
| Width | 3 |
| Length | |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | No |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails leading to culvert Culvert no light through - probably steep |
| Fencing present? | Yes |
| Describe fencing type and height | 4 ft farm fence up hill est 50 meters south of site chain link, 3 strand barbed wire north of site |
| Consider for camera? | |









Comments

33.43030,-117.14793
Culvert mouth is uphill from roadside at base of small

Management recommendations

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 19825 |
| Survey Date | 07/30/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | WS8b |
| Drop Point (Lat/Long) | |
| Latitude | 33.42557 |
| Longitude | -117.151575 |
| Speed | 0.0 m/s |
| Direction | 247.978881835938 degrees from N |
| Altitude | 335.002811431885 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Highway 395 lies approx. 35 meters east of I-15, running parallel. Just east of 395 is large commercial nursery. Nature of landscape is conducive to crossing on SB side. SB location is adjacent to truck stop. |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | On northbound side, there is a well vegetated downslope of approx. 25 meters between I 15 and 395. There is a shallow north/south drainage at base of this slope. However, just east of here is 395 and commercial development. Not able to locate culvert in thick underbrush on NB side. |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 4 meters |
| Height | 4 |
| Width | 4 |
| Length | |
| Structure floor material | Concrete |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | Unknown |
| Constraints | Yes |
| Describe constraint | Commercial property to east. Iron bars over culvert on SB side. SB: Traffic noise. |

Evidence of human encampment here. Truck stop and on ramp to I 15 from truck stop here introduces yet more roadway to cross.

| | |
|--|---|
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Game trails |
| Fencing present? | Yes |
| Describe fencing type and height | 6 foot chain link running north south between 395 and I 15 on NB side. 4 foot barbed wire parallel to I 15 on SB side approx. 50 from road. |
| Consider for camera? | No |



NB



NB



NB



NB



NB



SB



SB



SB



SB



SB



SB



SB



SB

Comments

Northbound side of this location not conducive to crossing due to commercial property on east side. There is no indication of culvert opening on the northbound side. Unable to locate. I would recommend re-assessing the NB side for culvert exit. The elevation change from I 15 to bottom of slope on NB side is only approx. 7 meters. Landscape on SB side appears conducive to crossing. Culvert entrance located SB side which may be conducive to crossing, but NB limitations make this a poor crossing site.

Management recommendations

Increase height of barrier fencing currently in place. Barrier fencing east of 395. Barrier fencing on SB side

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 20883 |
| Survey Date | 08/08/2018 |
| User | Rich Codington |
| Highway name | I-15 |
| Location | WS9 |
| Drop Point (Lat/Long) | |
| Latitude | 33.391866 |
| Longitude | -117.17347 |
| Speed | 0.0 m/s |
| Direction | 283.546997070312 degrees from N |
| Altitude | 278.221295687766 m |
| Accuracy | m |
| Surveyor | Rich |
| Road type | Multi lane freeway |
| Estimated width of road from one pavement edge to the other | 180 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Northbound side: agricultural and residential development as well as highway 395 approx. 200 meters east of I-15. Southbound side of fwy. here is 30 meter high steep DG slope which terminates at edge of fwy. To the west of this is avacado grove. |
| Landscape and veg structure suggest corridor | No |
| Describe limitation of landscape and veg and which side of road | Sparse vegetation on southbound embankment. Highway and development to the east of NB. |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | Yes |
| Describe human presence potential | Just freeway traffic. |
| Constraints | Yes |
| Describe constraint | Crossing at grade. Steep unprotected slope SB. Highway 395 to east. Development to east. Traffic noise. |

| | |
|----------------------------------|---|
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 5 foot chain link parallel to NB I-15 30 meters from fwy. |
| Consider for camera? | No |



NB



NB



SB



SB



NB



SB



NB



SB

| | |
|----------------------------|---|
| Comments | Due to steep embankment SB side, not conducive to culvert placement. Development NB and SB. Dangerous at -grade crossing currently. |
| Management recommendations | Barrier fencing. |

SA-PAL survey

Project SA-PAL project

ID 18755

Survey Date 06/25/2018

User Jamie Bourdon

Highway name

Location

Surveyor

Road type

Estimated width of road
from one pavement edge to
the other

Landscape character
suggestive of likely crossing
point

Landscape and veg
structure suggest corridor

Other species observed

Structure type

Height

Width

Length

Structure floor material

Able to see through culvert

Water?

Human presence likely at
night?

Constraints

Evidence of other animals?

Fencing present?

Consider for camera?

Photos None

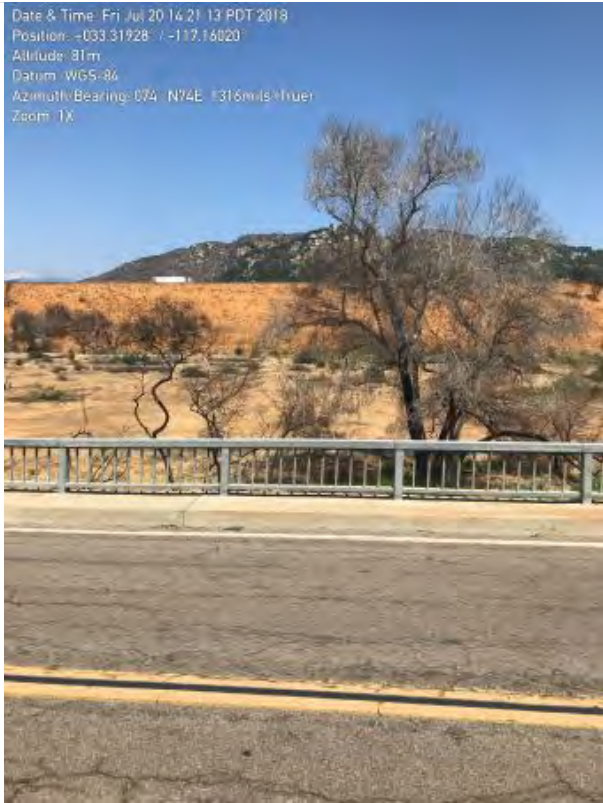
Comments

Management
recommendations

SA-PAL survey

| | |
|---|---|
| Project | SA-PAL project |
| ID | 30644 |
| Survey Date | 07/20/2018 |
| User | Jamie Bourdon |
| Highway name | Old 395 |
| Location | |
| Drop Point (Lat/Long) | |
| Latitude | 33.319335 |
| Longitude | -117.160208 |
| Speed | 0.509999990463257 m/s |
| Direction | 63.5287895202637 degrees from N |
| Altitude | 76.0537719726562 m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 30' |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | Large drainage basin/flood plain to East. Open space with golf course to West. |
| Landscape and veg structure suggest corridor | No |
| Describe limitation of landscape and veg and which side of road | Limited vegetation throughout due to Lilac fire. Open flood plain to east that is bounded by the I-15 slope. Access is bounded to west by 6' chain link fencing with barbed wire on top |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 25 |
| Width | 30 |
| Length | 55 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | Yes |
| Describe human presence potential | At times due to graffiti |
| Constraints | Yes |
| Describe constraint | I-15 1/4 to east. Fencing preventing access to west along with development to west. |

| | |
|----------------------------------|---|
| Evidence of other animals? | No |
| Fencing present? | Yes |
| Describe fencing type and height | 6' chain link with 2 stand barbed wire on top to west |
| Consider for camera? | No |



Date & Time: Fri Jul 20 14:23:37 PDT 2018
Position: +033.31938° / -117.16006°
Altitude: 72m
Datum: WGS-84
Azimuth/Bearing: 270° S90W 4800mils (True)
Zoom: 1X



Date & Time: Fri Jul 20 14:20:50 PDT 2018
Position: +033.31936° / -117.16022°
Altitude: 71m
Datum: WGS-84
Azimuth/Bearing: 164° S72W 3020mils (True)
Zoom: 1X



Date & Time: Fri Jul 20 14:24:22 PDT 2018
Position: +033.31940° / -117.16024°
Altitude: 73m
Datum: WGS-84
Azimuth/Bearing: 075° N75E 1333mils (True)
Zoom: 1X



Comments

This bridge is for seasonal flooding and does not provide east-west corridor. San Luis Rey river is 1/2 north.

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 46989 |
| Survey Date | 05/21/2019 |
| User | Jamie Bourdon |
| Highway name | Rainbow Canyon Rd |
| Location | |
| Drop Point (Lat/Long) | |
| Latitude | 33.456564 |
| Longitude | -117.129031 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 36 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | Both sides |
| Other species observed | |
| Structure type | None |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Blind s curve |
| Evidence of other animals? | No |
| Fencing present? | No |
| Consider for camera? | Yes |
| Camera suggestions | Camera on west side draw approx 30' off shoulder. Camera east side in draw |





Comments

Most likely access corridor on north side of Applegate property to traverse rainbow canyon road

Management

SA-PAL survey

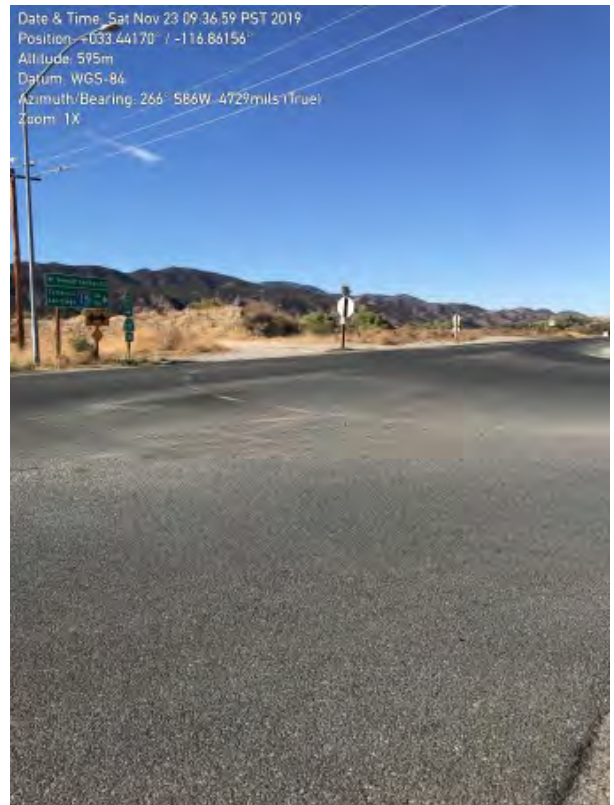
| | |
|---|----------------|
| Project | SA-PAL project |
| ID | 51572 |
| Survey Date | 06/26/2019 |
| User | Rich Codington |
| Highway name | |
| Location | |
| Drop Point (Lat/Long) | |
| Latitude | |
| Longitude | |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | |
| Road type | |
| Estimated width of road from one pavement edge to the other | |
| Landscape character suggestive of likely crossing point | |
| Landscape and veg structure suggest corridor | |
| Other species observed | |
| Structure type | |
| Height | |
| Width | |
| Length | |
| Structure floor material | |
| Able to see through culvert | |
| Water? | |
| Human presence likely at night? | |
| Constraints | |
| Evidence of other animals? | |
| Fencing present? | |
| Consider for camera? | |
| Photos | None |
| Comments | |
| Management recommendations | |

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 63962 |
| Survey Date | 11/23/2019 |
| User | Jamie Bourdon |
| Highway name | 79S |
| Location | |
| Drop Point (Lat/Long) | |
| Latitude | 33.441534 |
| Longitude | -116.861613 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 60 |
| Landscape character suggestive of likely crossing point | No |
| Describe reason landscape character not conducive to crossing | 3 way intersection. Open scrub landscape |
| Landscape and veg structure suggest corridor | No |
| Describe limitation of landscape and veg and which side of road | |
| Other species observed | |
| Structure type | Round culvert |
| Culvert distance below road | 2' |
| Height | 1.5 |
| Width | 1.5 |
| Length | 90 |
| Structure floor material | Metal |
| Able to see through culvert | No |
| Water? | Seasonal |
| Human presence likely at night? | No |
| Constraints | Yes |
| Describe constraint | Small culvert. South side obstructed with vegetation and debris. Open intersection |
| Evidence of other animals? | No |
| Fencing present? | Yes |

| | |
|----------------------------------|-------------------------------------|
| Describe fencing type and height | 4' high 3 strand wire on south side |
| Consider for camera? | No |





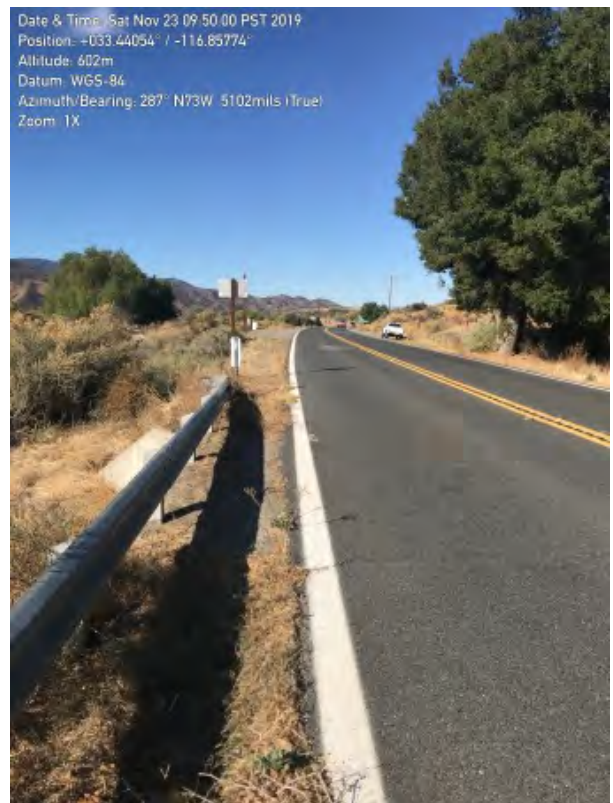
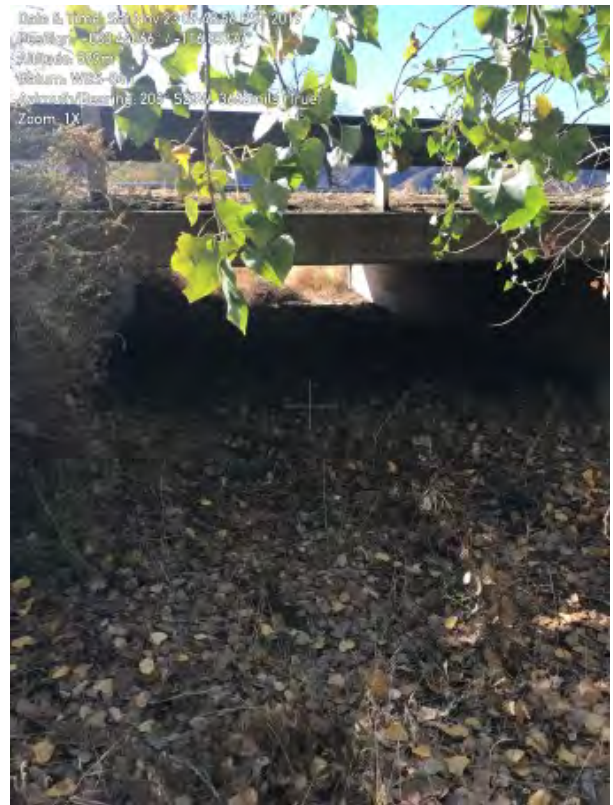
Comments

Management
 recommendations

SA-PAL survey

| | |
|---|--|
| Project | SA-PAL project |
| ID | 63963 |
| Survey Date | 11/23/2019 |
| User | Jamie Bourdon |
| Highway name | 79S |
| Location | |
| Drop Point (Lat/Long) | |
| Latitude | 33.440525 |
| Longitude | -116.857791 |
| Speed | m/s |
| Direction | degrees from N |
| Altitude | m |
| Accuracy | m |
| Surveyor | Jamie |
| Road type | 2 lane |
| Estimated width of road from one pavement edge to the other | 25 |
| Landscape character suggestive of likely crossing point | Yes |
| Landscape and veg structure suggest corridor | One side |
| Describe limitation of landscape and veg and which side of road | South side has limited vegetation along creek/wash compared to north side. |
| Other species observed | |
| Structure type | Bridge - single span |
| Height | 4 |
| Width | 18 |
| Length | 35 |
| Structure floor material | Dirt-gravel |
| Able to see through culvert | Yes |
| Water? | Seasonal |
| Human presence likely at night? | |
| Constraints | Yes |
| Describe constraint | Rancho RV California resort adjacent to east |
| Evidence of other animals? | Yes |
| Describe evidence of other animals present | Canine prints under bridge |
| Fencing present? | Yes |
| Describe fencing type and height | 4' 3 strand barbed wire on north side. Intermittent. |





Comments

Possible good corridor heading north. South side becomes more open scrub land but travel to south would likely be networks meandering around and through ranchitas. No signs of heavy game trails in either direction approaching bridge.

SA-PAL survey

Project SA-PAL project

ID 70772

Survey Date 02/09/2020

User Rich Codington

Highway name

Location

Drop Point (Lat/Long)

Latitude

Longitude

Speed m/s

Direction degrees from N

Altitude m

Accuracy 0 m

Surveyor

Road type

Estimated width of road
from one pavement edge to
the other

Landscape character
suggestive of likely crossing
point

Landscape and veg
structure suggest corridor

Other species observed

Structure type

Height

Width

Length

Structure floor material

Able to see through culvert

Water?

Human presence likely at
night?

Constraints

Evidence of other animals?

Fencing present?

Consider for camera?

Photos None

Comments

Management
recommendations