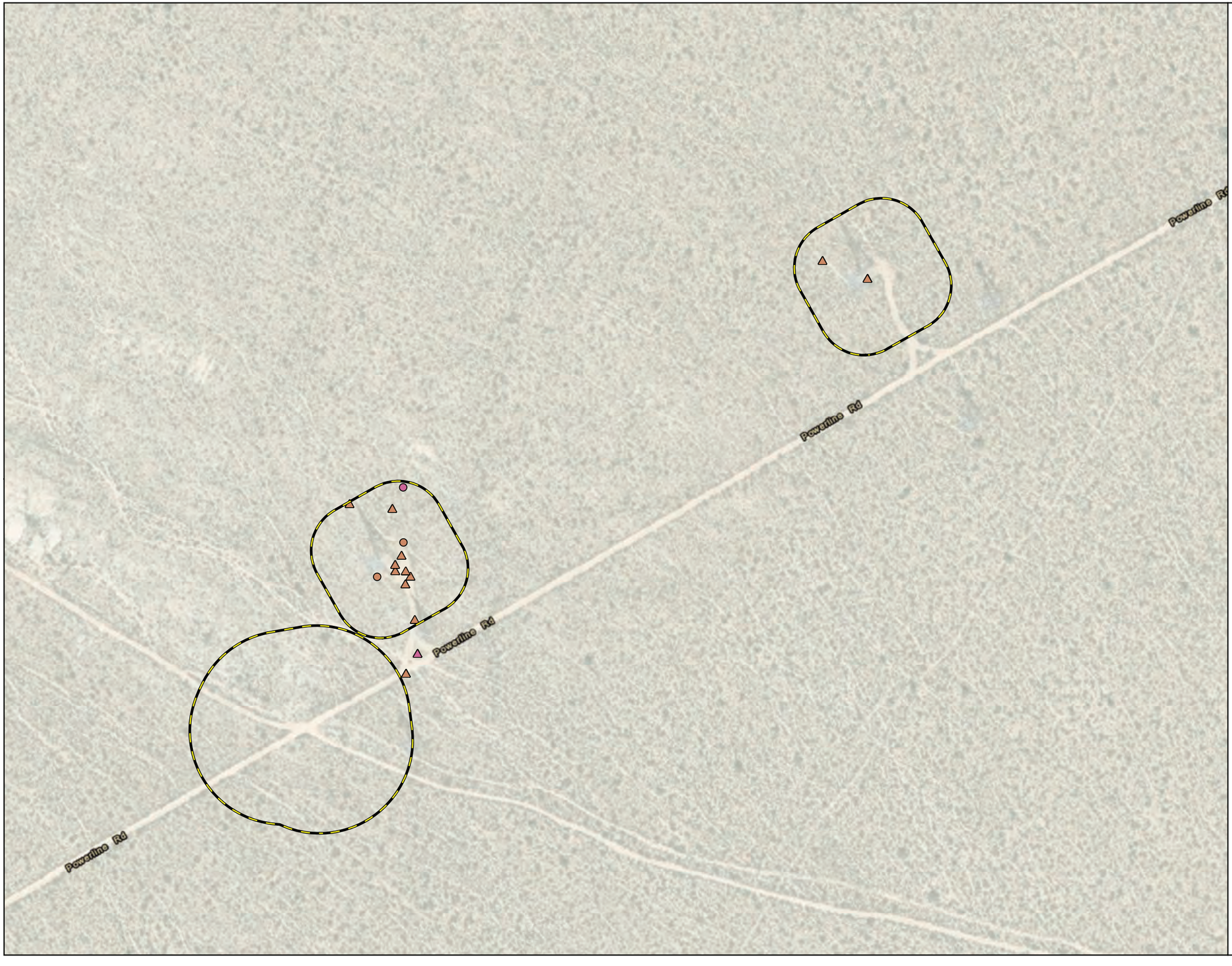


Spring 2021 Survey Area
Fall 2021 Survey Area

Spring 2021 Survey Results
California Rare Pant Rank 1B
Rusby's desert-mallow
California Rare Pant Rank 2B
Viviparous foxtail cactus

Fall 2021 Survey Results
California Rare Pant Rank 1B
Rusby's desert-mallow
California Rare Pant Rank 2B
Viviparous foxtail cactus

Figure 3, Page 28 of 83

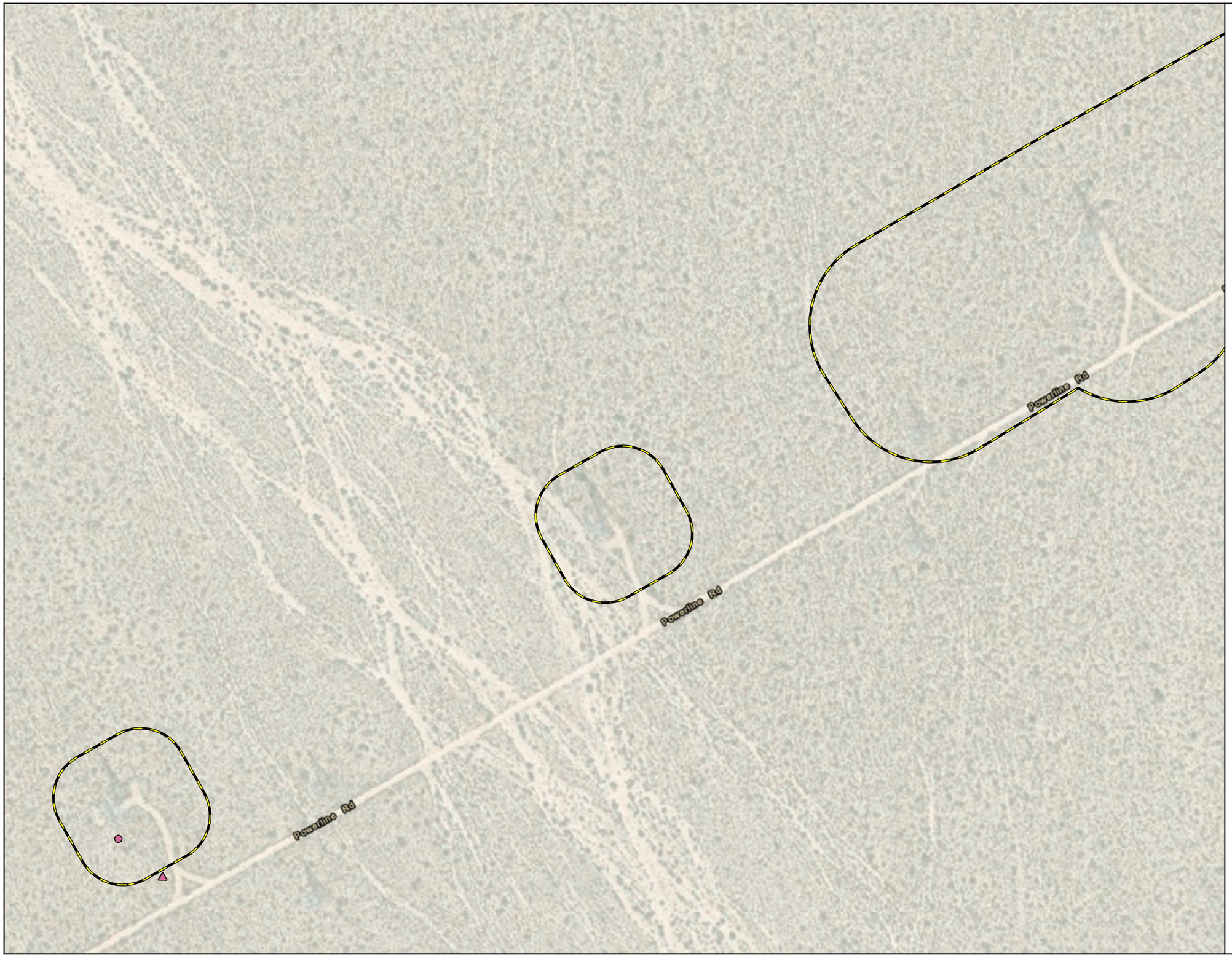
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Spring 2021 Survey Area

Fall 2021 Survey Area

Spring 2021 Survey Results

California Rare Pant Rank 2B

- Viviparous foxtail cactus

Fall 2021 Survey Results

California Rare Pant Rank 2B

- Viviparous foxtail cactus

Figure 3, Page 29 of 83

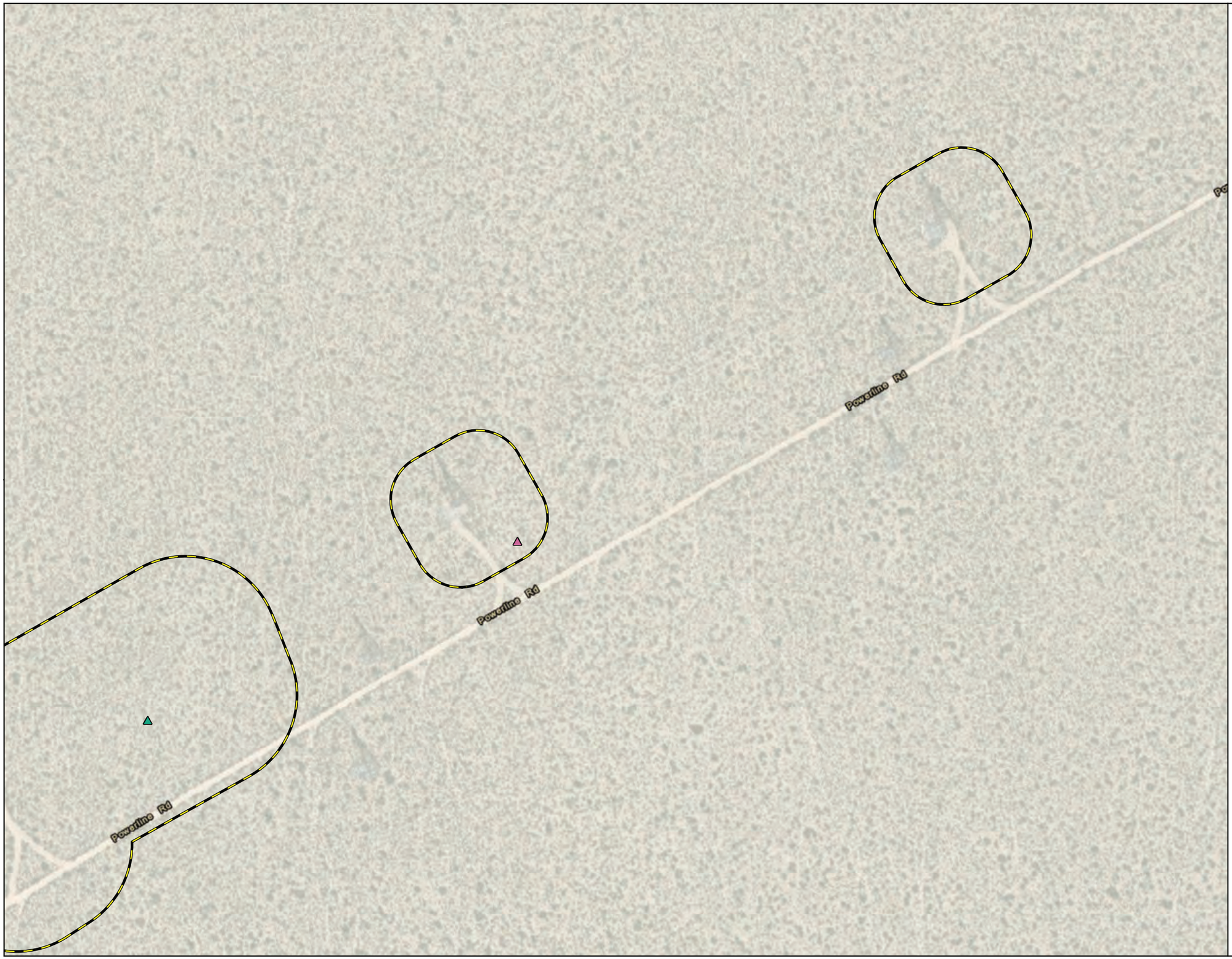
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Spring 2021 Survey Area

Fall 2021 Survey Area

Spring 2021 Survey Results

California Rare Pant Rank 2B

- Purple-nerve cymopterus
- Viviparous foxtail cactus

Figure 3, Page 30 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Powerline Rd

Powerline Rd

Powerline Rd

Spring 2021 Survey Area

Fall 2021 Survey Area

Spring 2021 Survey Results

California Rare Pant Rank 1B

Rusby's desert-mallow

California Rare Pant Rank 2B

Parish's club-cholla

Figure 3, Page 31 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Powerline Rd

Powerline Rd

Powerline Rd

Powerline Rd

Spring 2021 Survey Area

Fall 2021 Survey Area

Spring 2021 Survey Results

California Rare Pant Rank 1B

Rusby's desert-mallow

California Rare Pant Rank 2B

Viviparous foxtail cactus

California Rare Pant Rank 1B

Rusby's desert-mallow

Fall 2021 Survey Results

California Rare Pant Rank 2B

Parish's club-cholla

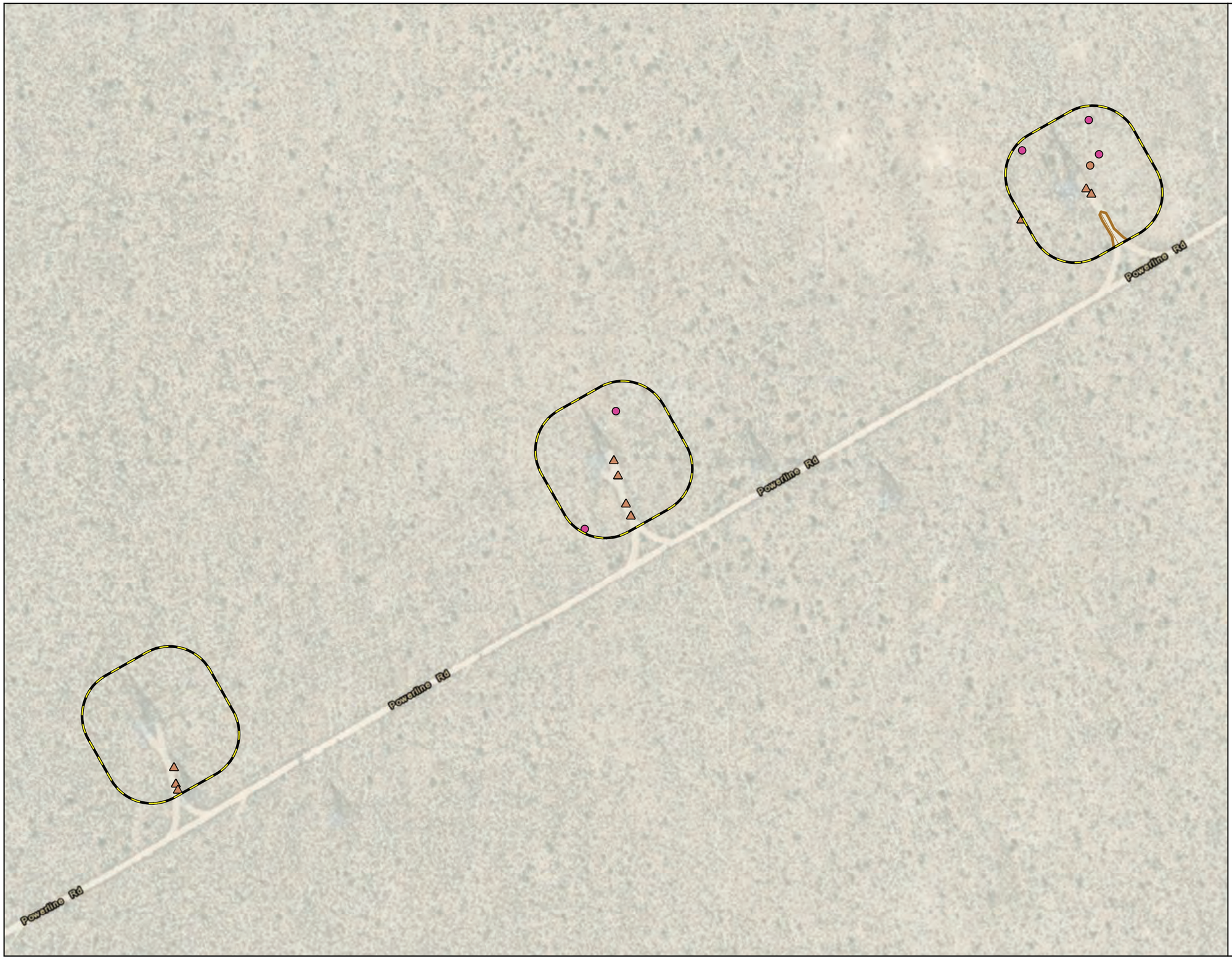
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Spring 2021 Survey Area
Fall 2021 Survey Area
Spring 2021 Survey Results
California Rare Pant Rank 1B
Rusby's desert-mallow
California Rare Pant Rank 1B
Rusby's desert-mallow
Fall 2021 Survey Results
California Rare Pant Rank 1B
Rusby's desert-mallow
California Rare Pant Rank 4
Desert portulaca

Figure 3, Page 33 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Spring 2021 Survey Area
Fall 2021 Survey Area

Spring 2021 Survey Results
California Rare Pant Rank 1B
Rusby's desert-mallow
California Rare Pant Rank 2B
Viviparous foxtail cactus
California Rare Pant Rank 1B
Rusby's desert-mallow

Fall 2021 Survey Results
California Rare Pant Rank 1B
Rusby's desert-mallow
California Rare Pant Rank 2B
Viviparous foxtail cactus
California Rare Pant Rank 4
Desert portulaca

Figure 3, Page 34 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Spring 2021 Survey Area
Fall 2021 Survey Area
Spring 2021 Survey Results
California Rare Pant Rank 2B
Parish's club-cholla
Viviparous foxtail cactus
California Rare Pant Rank 2B
Parish's club-cholla
Fall 2021 Survey Results
California Rare Pant Rank 2B
Parish's club-cholla
Viviparous foxtail cactus
California Rare Pant Rank 4
Desert portulaca
California Rare Pant Rank 4
Desert portulaca

Figure 3, Page 35 of 83

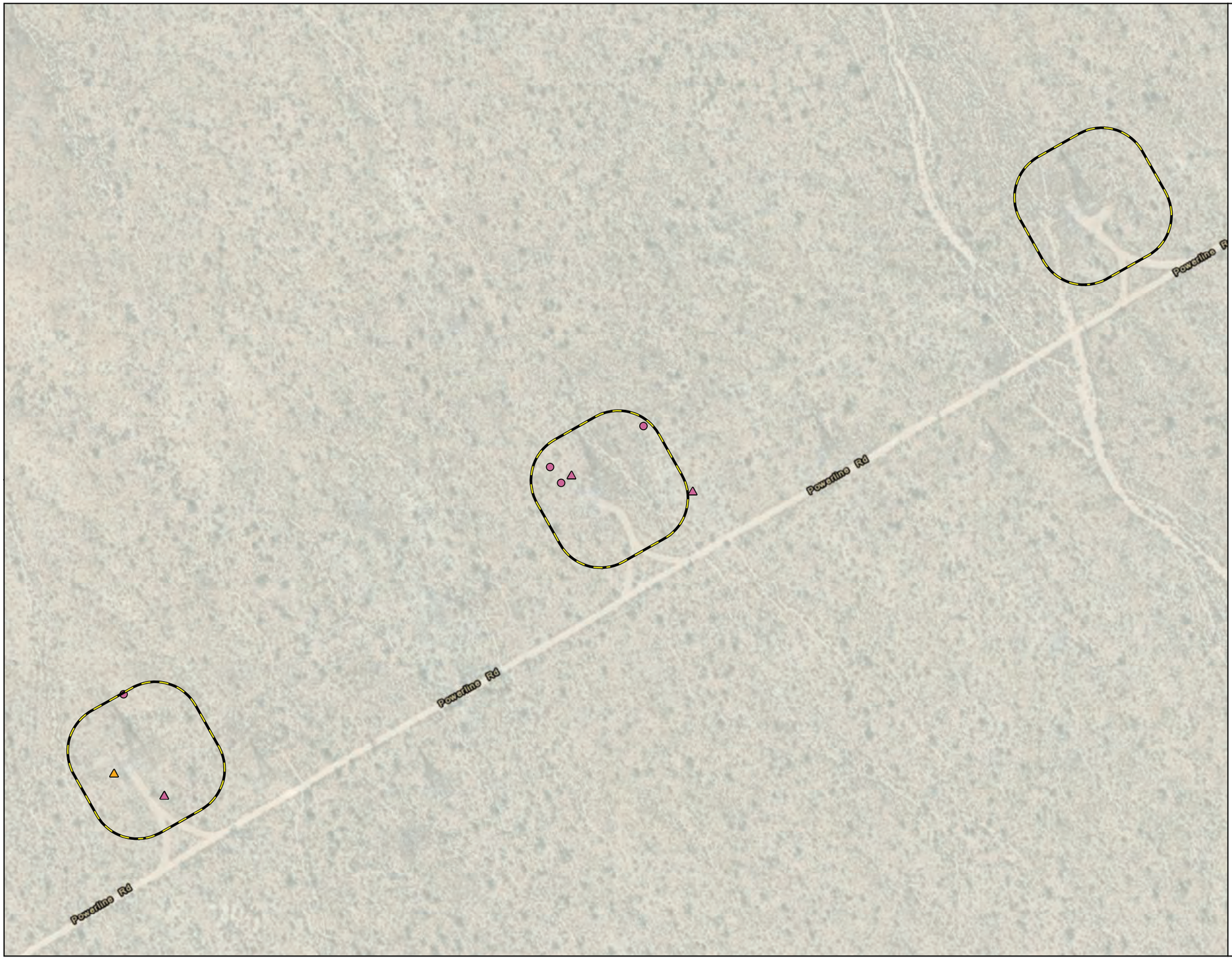
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Spring 2021 Survey Area
Fall 2021 Survey Area

Spring 2021 Survey Results
California Rare Pant Rank 2B
- Parish's club-cholla
- Viviparous foxtail cactus

Fall 2021 Survey Results
California Rare Pant Rank 2B
- Viviparous foxtail cactus

Figure 3, Page 36 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Powerline Rd

Powerline Rd

Powerline Rd

Powerline Rd

Spring 2021 Survey Area

Fall 2021 Survey Area

Spring 2021 Survey Results

California Rare Pant Rank 1B

Rusby's desert-mallow

California Rare Pant Rank 2B

Viviparous foxtail cactus

Fall 2021 Survey Results

California Rare Pant Rank 1B

Rusby's desert-mallow

California Rare Pant Rank 2B

Viviparous foxtail cactus

Figure 3, Page 37 of 83

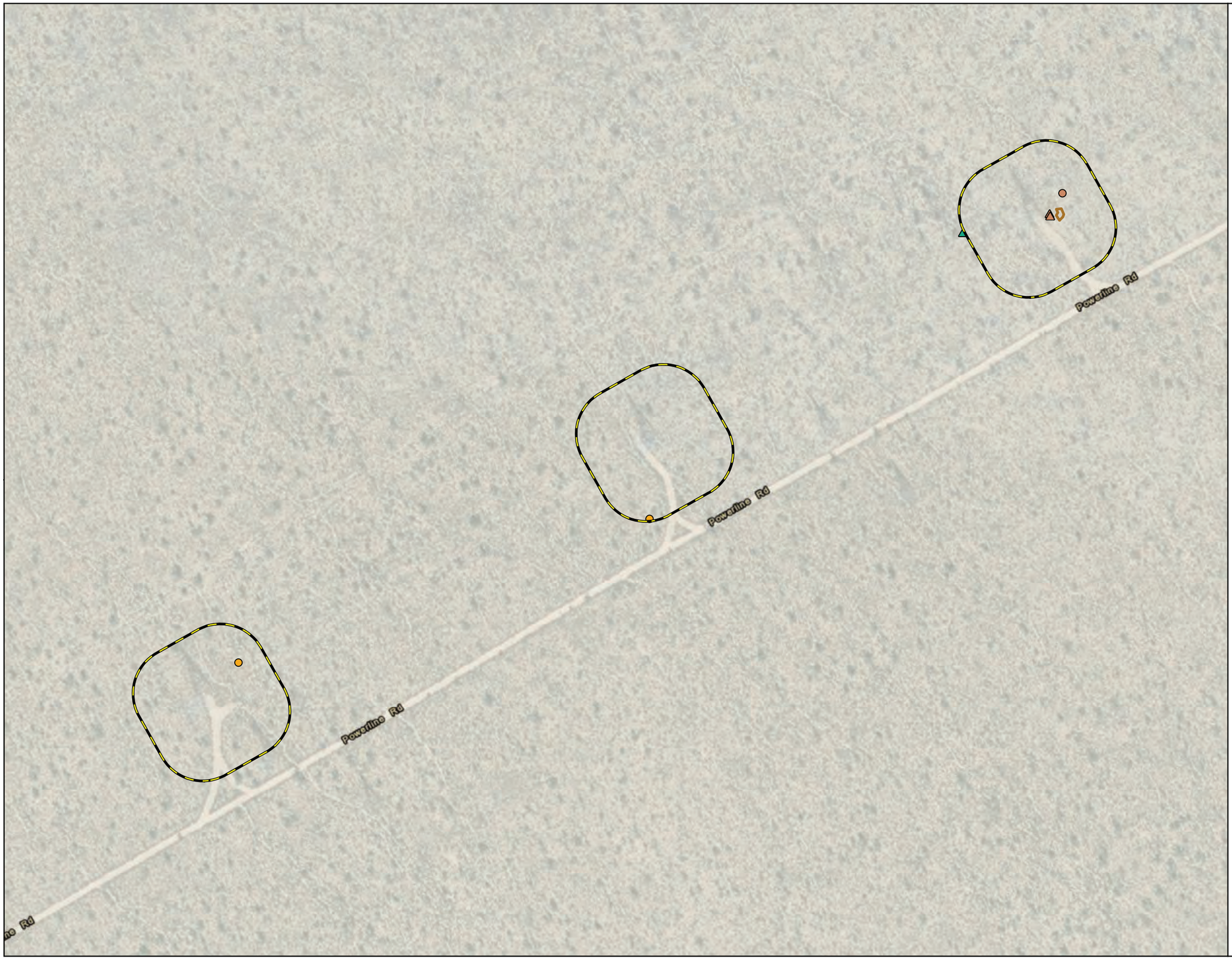
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Spring 2021 Survey Area

Fall 2021 Survey Area

Spring 2021 Survey Results

California Rare Pant Rank 1B

Rusby's desert-mallow

California Rare Pant Rank 2B

Purple-nerve cymopterus

California Rare Pant Rank 1B

Rusby's desert-mallow

Fall 2021 Survey Results

California Rare Pant Rank 1B

Rusby's desert-mallow

California Rare Pant Rank 2B

Parish's club-cholla

Figure 3, Page 38 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Powerline Rd

Powerline Rd

Powerline Rd

Powerline Rd

Spring 2021 Survey Area

Fall 2021 Survey Area

Spring 2021 Survey Results

California Rare Pant Rank 1B

Rusby's desert-mallow

California Rare Pant Rank 2B

Parish's club-cholla

Viviparous foxtail cactus

Fall 2021 Survey Results

California Rare Pant Rank 2B

Viviparous foxtail cactus

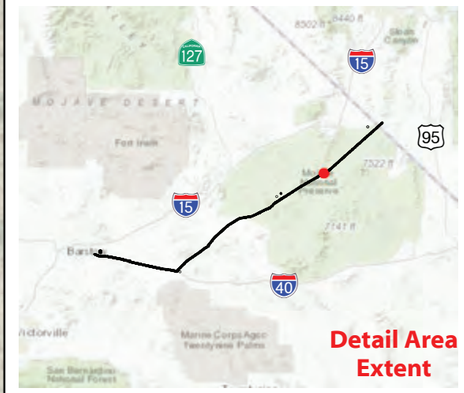


Figure 3, Page 39 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Powerline Rd

Powerline Rd

Powerline Rd

Spring 2021 Survey Area

Fall 2021 Survey Area

Spring 2021 Survey Results

California Rare Pant Rank 1B

San Bernardino milk-vetch

California Rare Pant Rank 2B

Viviparous foxtail cactus

California Rare Pant Rank 2B

Rusby's desert-mallow

Fall 2021 Survey Results

California Rare Pant Rank 2B

Viviparous foxtail cactus

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Spring 2021 Survey Area
Fall 2021 Survey Area
Spring 2021 Survey Results
California Rare Plant Rank 1B
San Bernardino milk-vetch
California Rare Plant Rank 2B
Parish's club-cholla
Purple-nerve cymopterus
Viviparous foxtail cactus
California Rare Plant Rank 2B
Rusby's desert-mallow
Fall 2021 Survey Results
California Rare Plant Rank 2B
Parish's club-cholla
Viviparous foxtail cactus

Figure 3, Page 41 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Morning Star Mine Rd

Powerline Rd

Spring 2021 Survey Area

Fall 2021 Survey Area

Spring 2021 Survey Results

California Rare Pant Rank 2B

Viviparous foxtail cactus

Fall 2021 Survey Results

California Rare Pant Rank 2B

Viviparous foxtail cactus

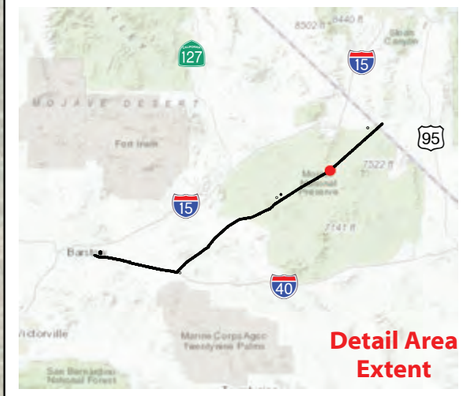


Figure 3, Page 42 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Powerline Rd

Powerline Rd

Powerline Rd

Spring 2021 Survey Area
Fall 2021 Survey Area

Spring 2021 Survey Results
California Rare Pant Rank 1B
- Rusby's desert-mallow

California Rare Pant Rank 2B
- Parish's club-cholla
- Viviparous foxtail cactus

Fall 2021 Survey Results
California Rare Pant Rank 2B
- Parish's club-cholla

California Rare Pant Rank 4
- Desert portulaca

Figure 3, Page 43 of 83

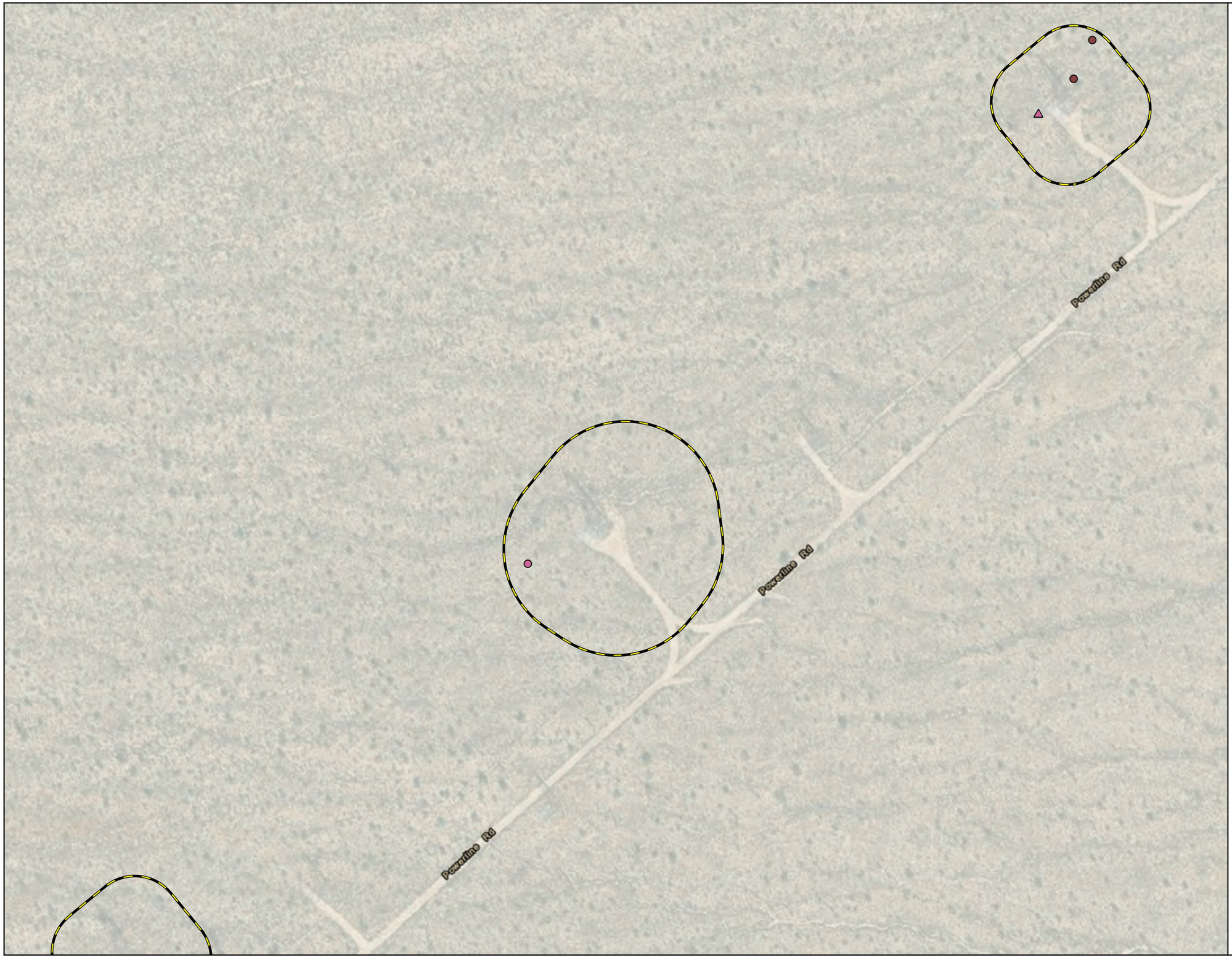
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Spring 2021 Survey Area

Fall 2021 Survey Area

Spring 2021 Survey Results

California Rare Pant Rank 2B

Viviparous foxtail cactus

Fall 2021 Survey Results

California Rare Pant Rank 2B

Curved-spine beavertail

Viviparous foxtail cactus

Figure 3, Page 44 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Spring 2021 Survey Area
Fall 2021 Survey Area
Fall 2021 Survey Results
California Rare Pant Rank 2B
Parish's club-cholla
Viviparous foxtail cactus

Powerline Rd
Powerline Rd
Powerline Rd

Figure 3, Page 45 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N
0 200 Feet

Artemis Environmental Services, Inc.

Spring 2021 Survey Area
Fall 2021 Survey Area
Spring 2021 Survey Results
California Rare Pant Rank 2B
Viviparous foxtail cactus
Fall 2021 Survey Results
California Rare Pant Rank 2B
Parish's club-cholla
Viviparous foxtail cactus
California Rare Pant Rank 4
Desert portulaca
California Rare Pant Rank 4
Desert portulaca

Figure 3, Page 46 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

Desert portulaca

California Rare Pant Rank 4

Desert portulaca

Figure 3, Page 47 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

Desert portulaca

California Rare Pant Rank 4

Desert portulaca

Figure 3, Page 48 of 83

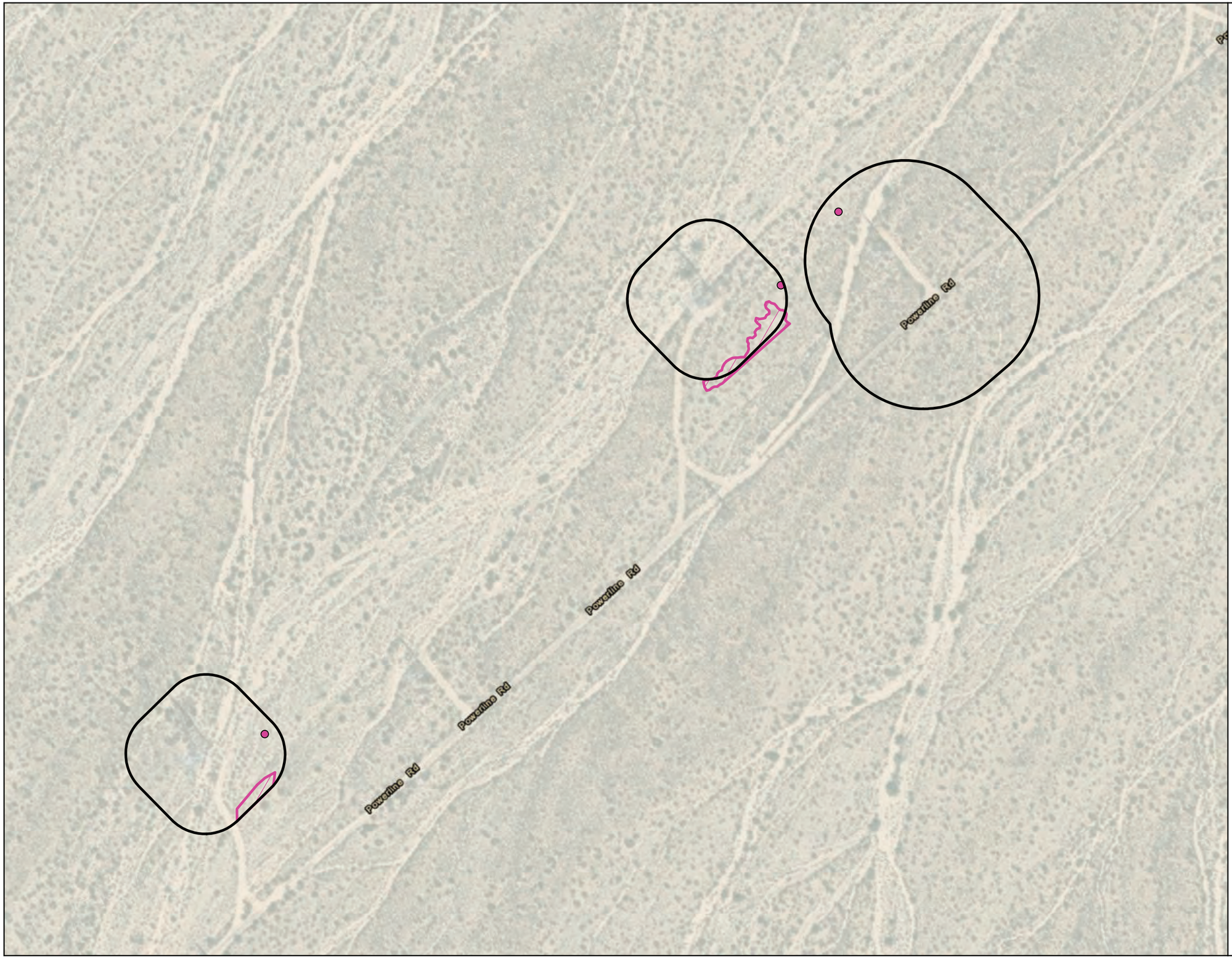
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

Desert portulaca

California Rare Pant Rank 4

Desert portulaca

Figure 3, Page 49 of 83

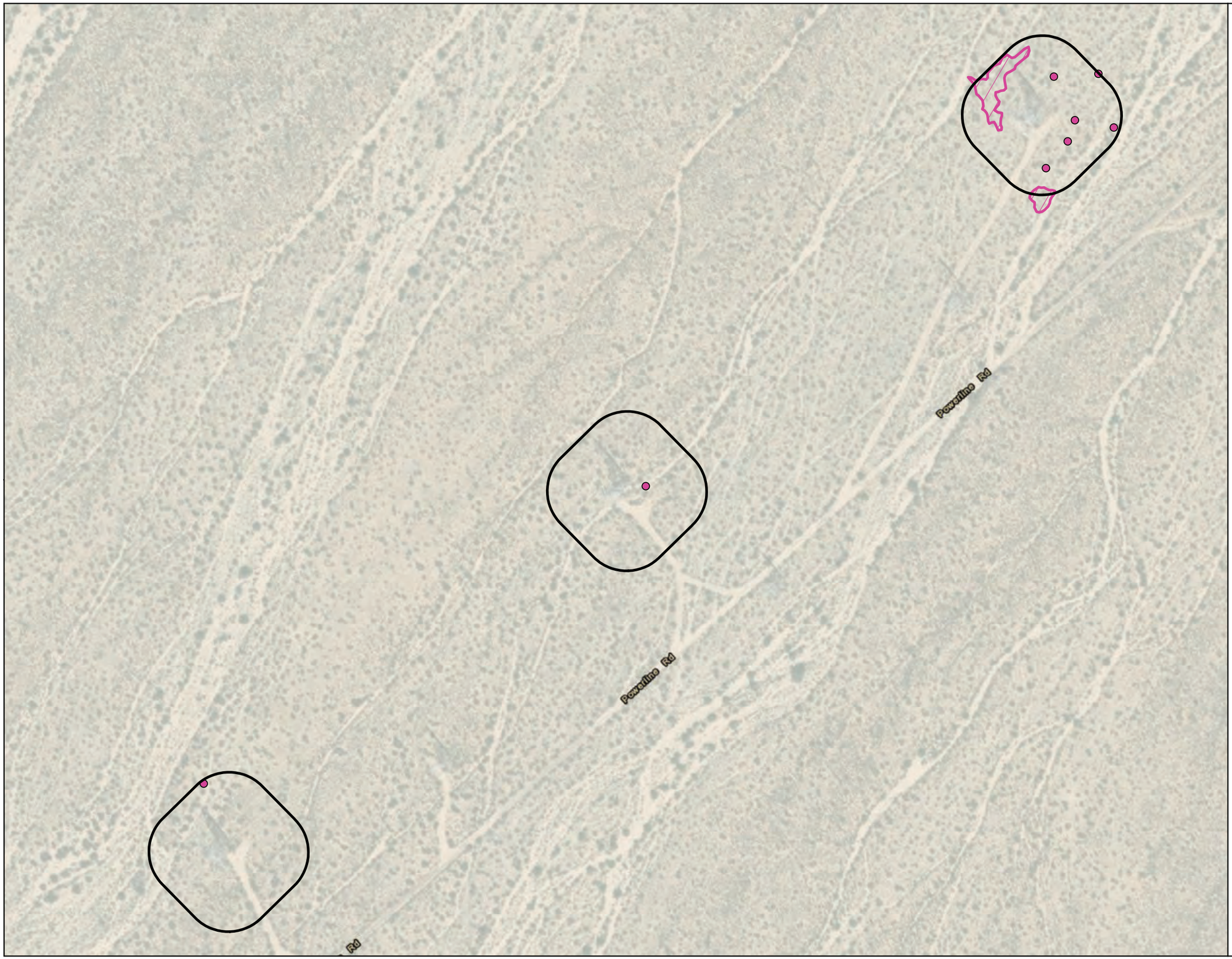
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

Desert portulaca

California Rare Pant Rank 4

Desert portulaca

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

Desert portulaca

California Rare Pant Rank 4

Desert portulaca

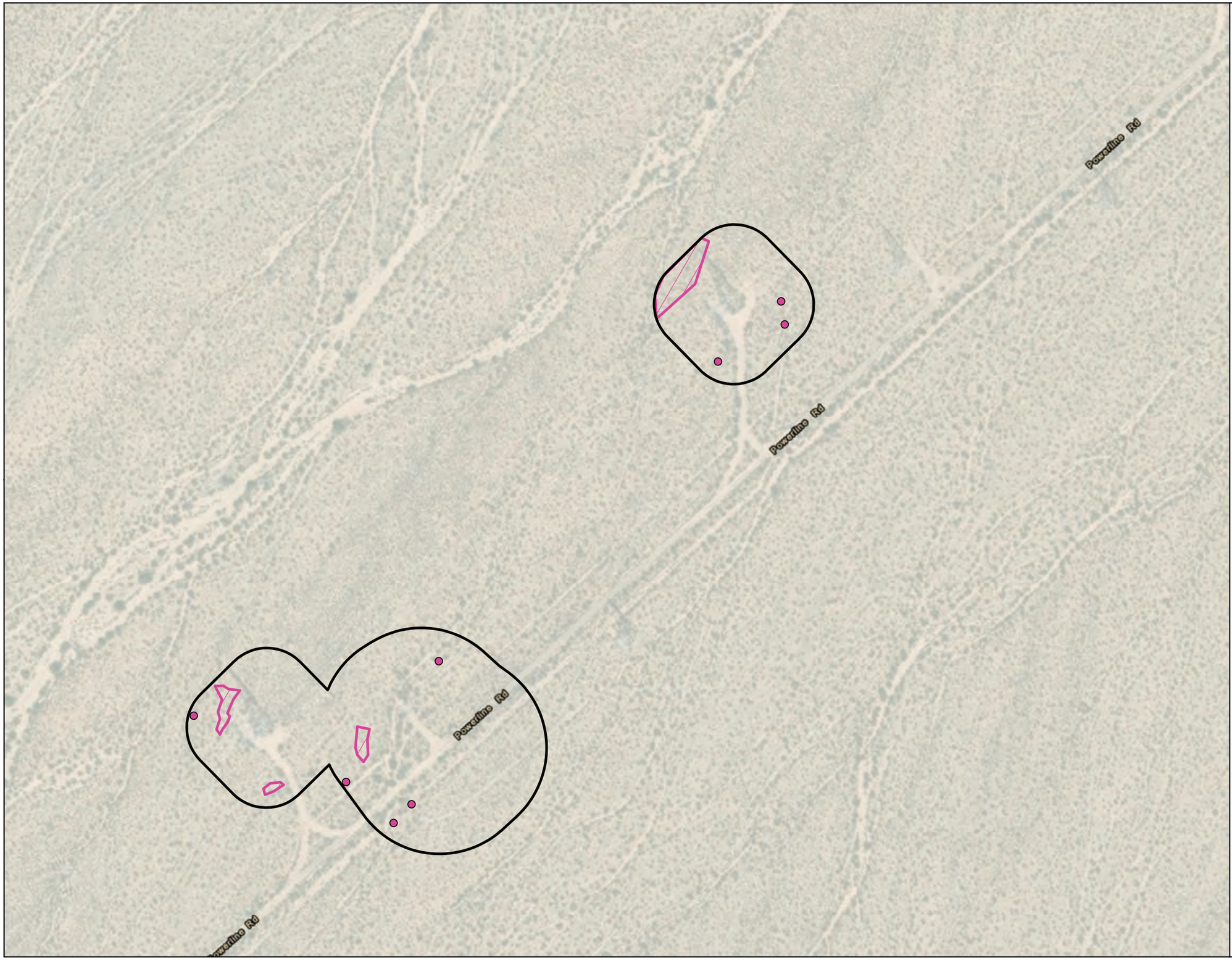
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

Desert portulaca

California Rare Pant Rank 4

Desert portulaca

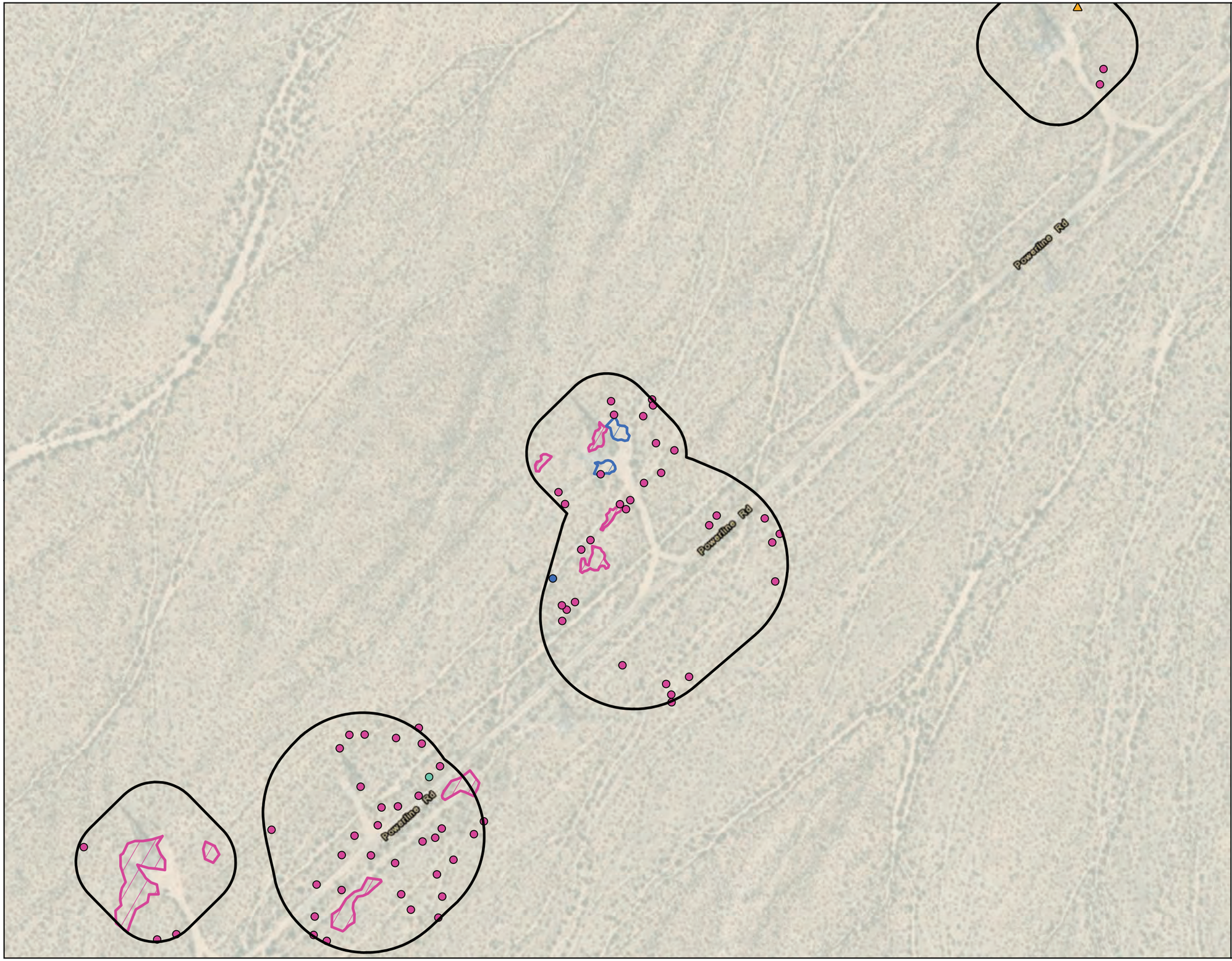
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Spring 2021 Survey Results

California Rare Pant Rank 2B

- Parish's club-cholla

Fall 2021 Survey Results

California Rare Pant Rank 4

- Desert portulaca
- Revolute spurge
- Warty caltrop

California Rare Pant Rank 4

- Desert portulaca
- Warty caltrop

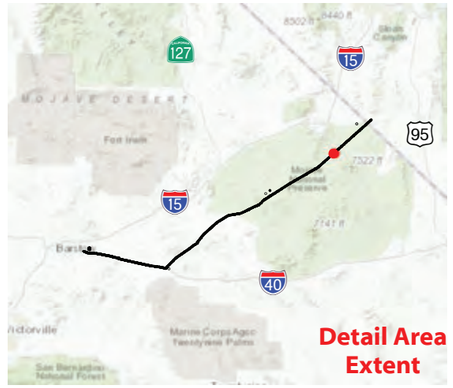


Figure 3, Page 53 of 83

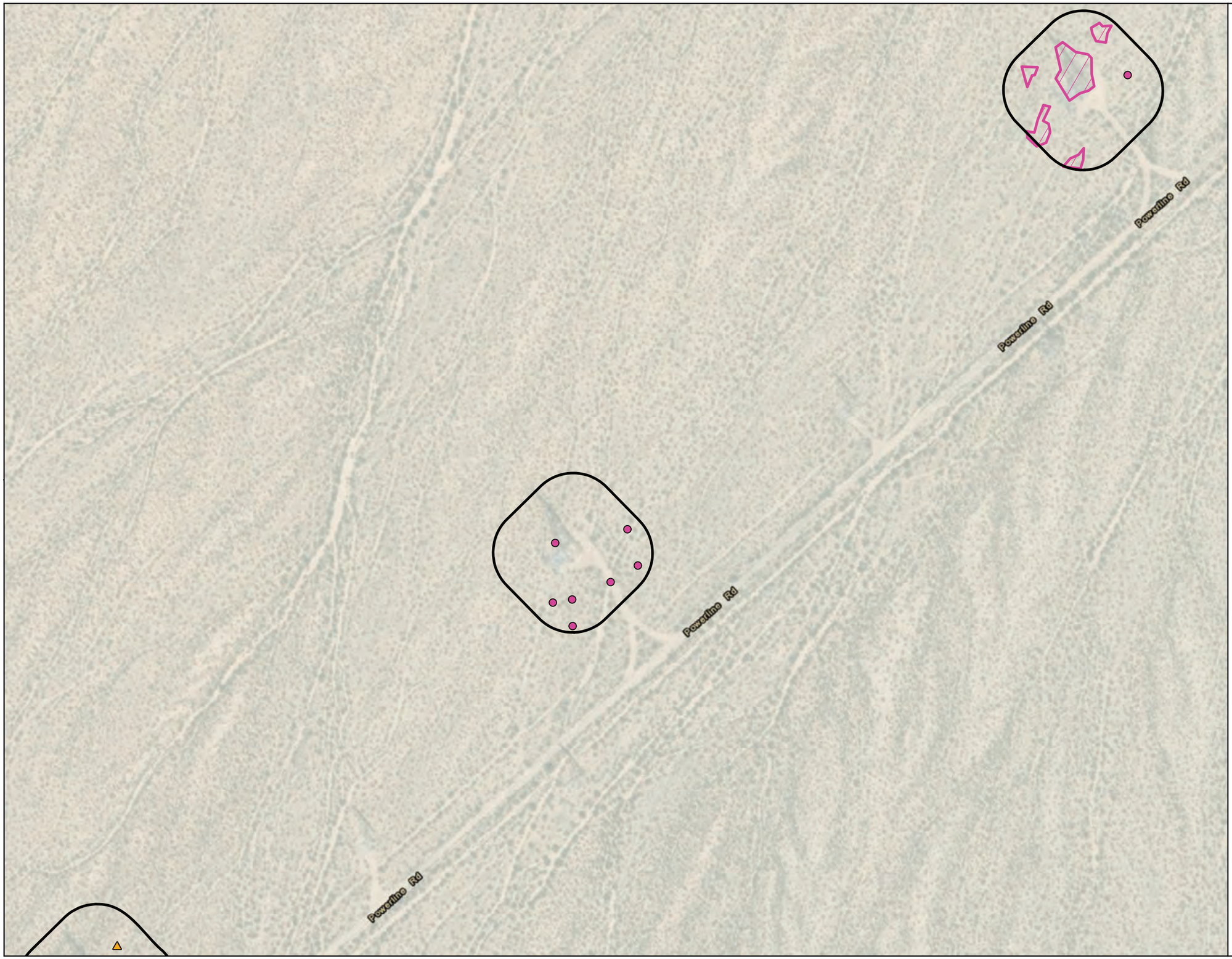
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Spring 2021 Survey Results

California Rare Pant Rank 2B

Parish's club-cholla

Fall 2021 Survey Results

California Rare Pant Rank 4

Desert portulaca

California Rare Pant Rank 4

Desert portulaca

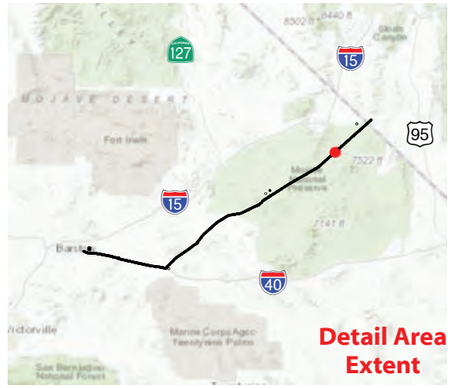


Figure 3, Page 54 of 83

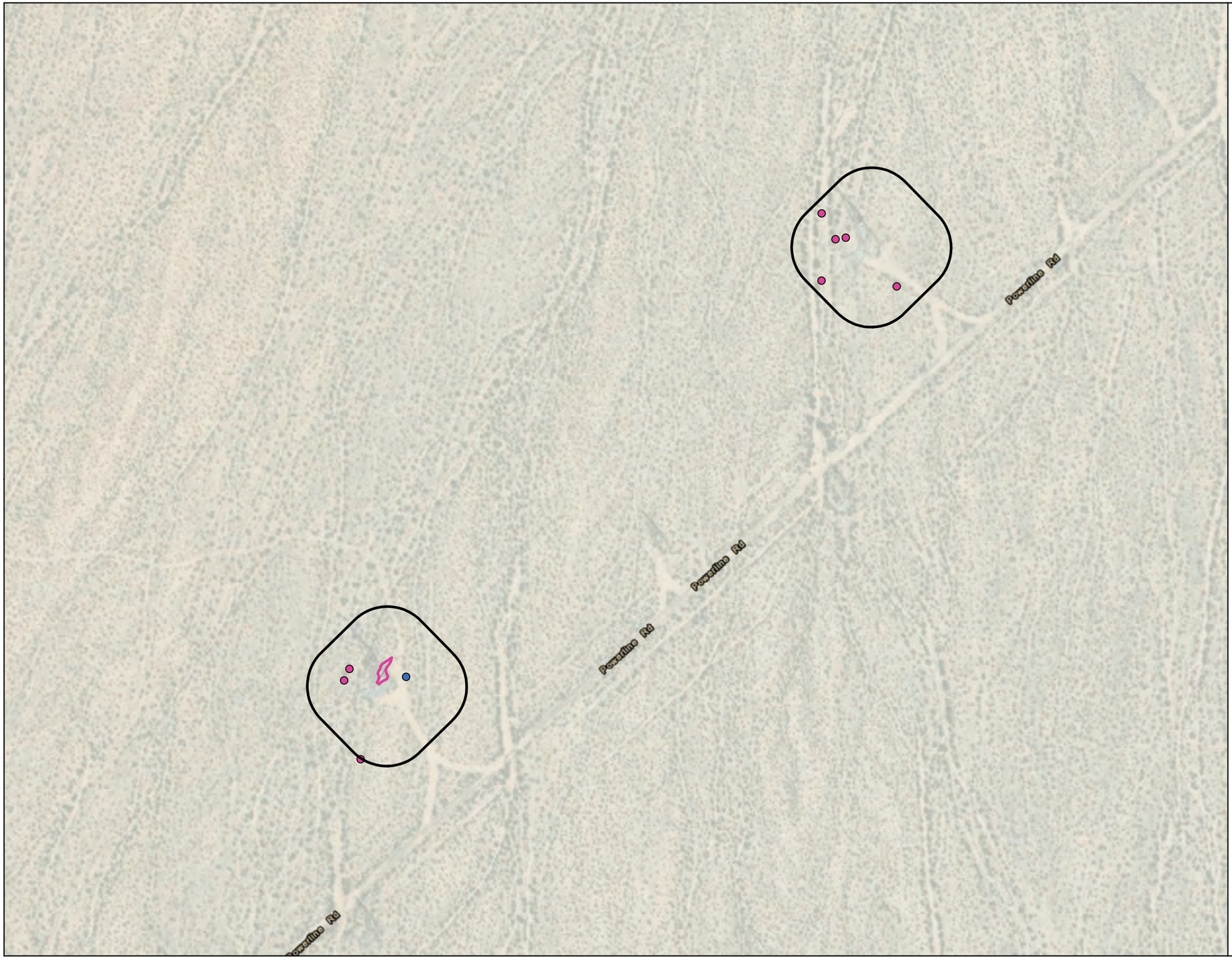
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

- Desert portulaca
- Warty caltrop

California Rare Pant Rank 4

- Desert portulaca

Figure 3, Page 55 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Powerline Rd

Powerline Rd

Powerline Rd

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

- Desert portulaca
- Warty caltrop

Figure 3, Page 56 of 83

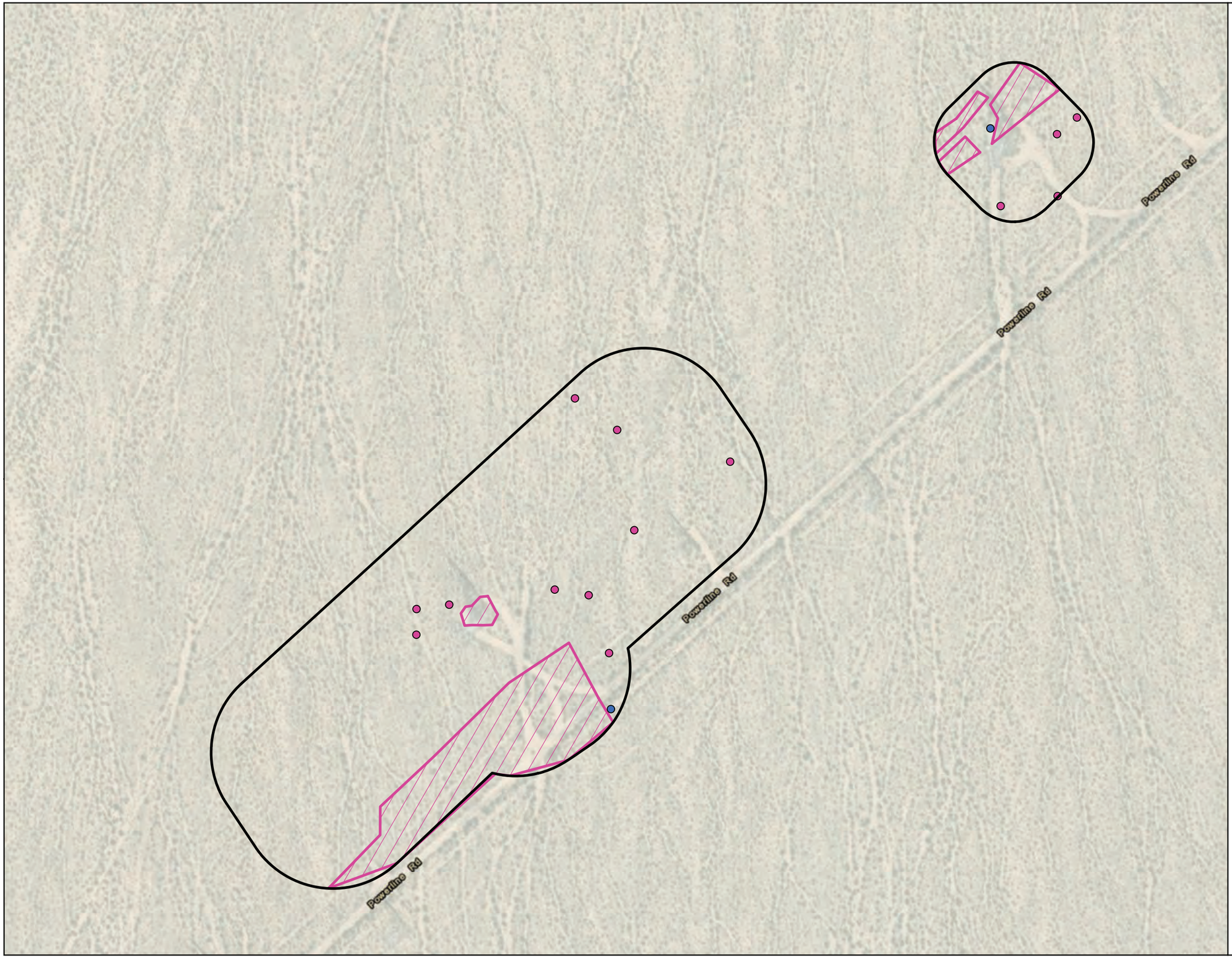
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

- Desert portulaca
- Warty caltrop

California Rare Pant Rank 4

- Desert portulaca

Figure 3, Page 57 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Powerline Rd

Powerline Rd

Powerline Rd

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

Desert portulaca

Figure 3, Page 58 of 83

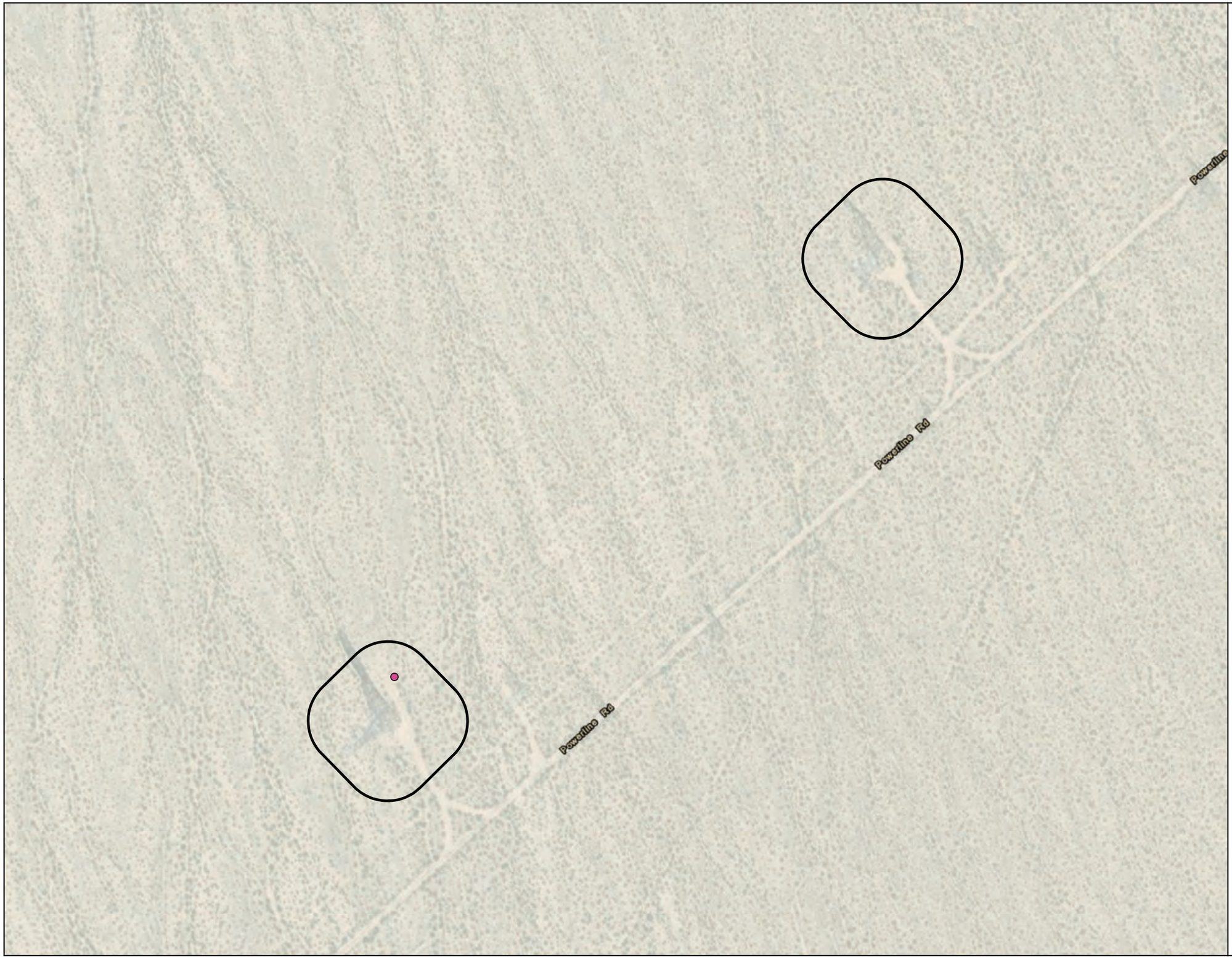
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

- Desert portulaca

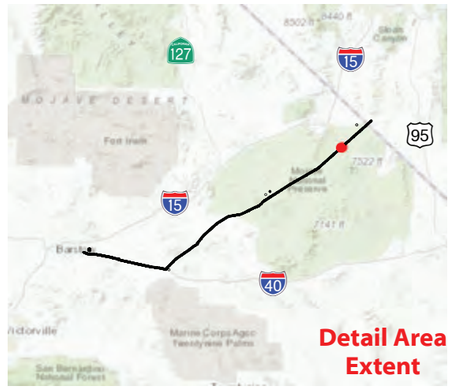


Figure 3, Page 59 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Powerline Rd

Powerline Rd

Powerline Rd

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

Desert portulaca

Figure 3, Page 60 of 83

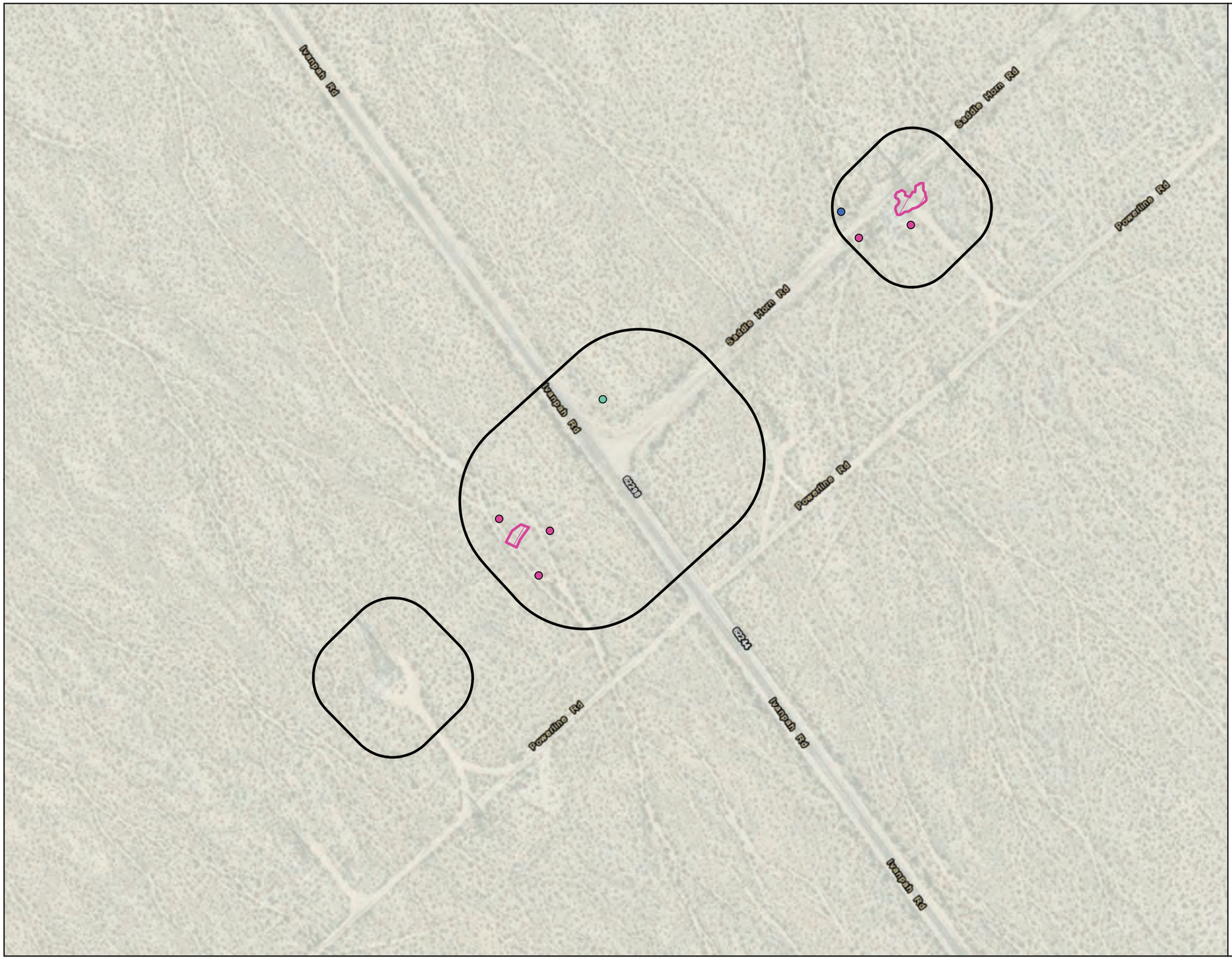
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

- Desert portulaca
- Revolute spurge
- Warty caltrop

California Rare Pant Rank 4

- Desert portulaca

Figure 3, Page 61 of 83

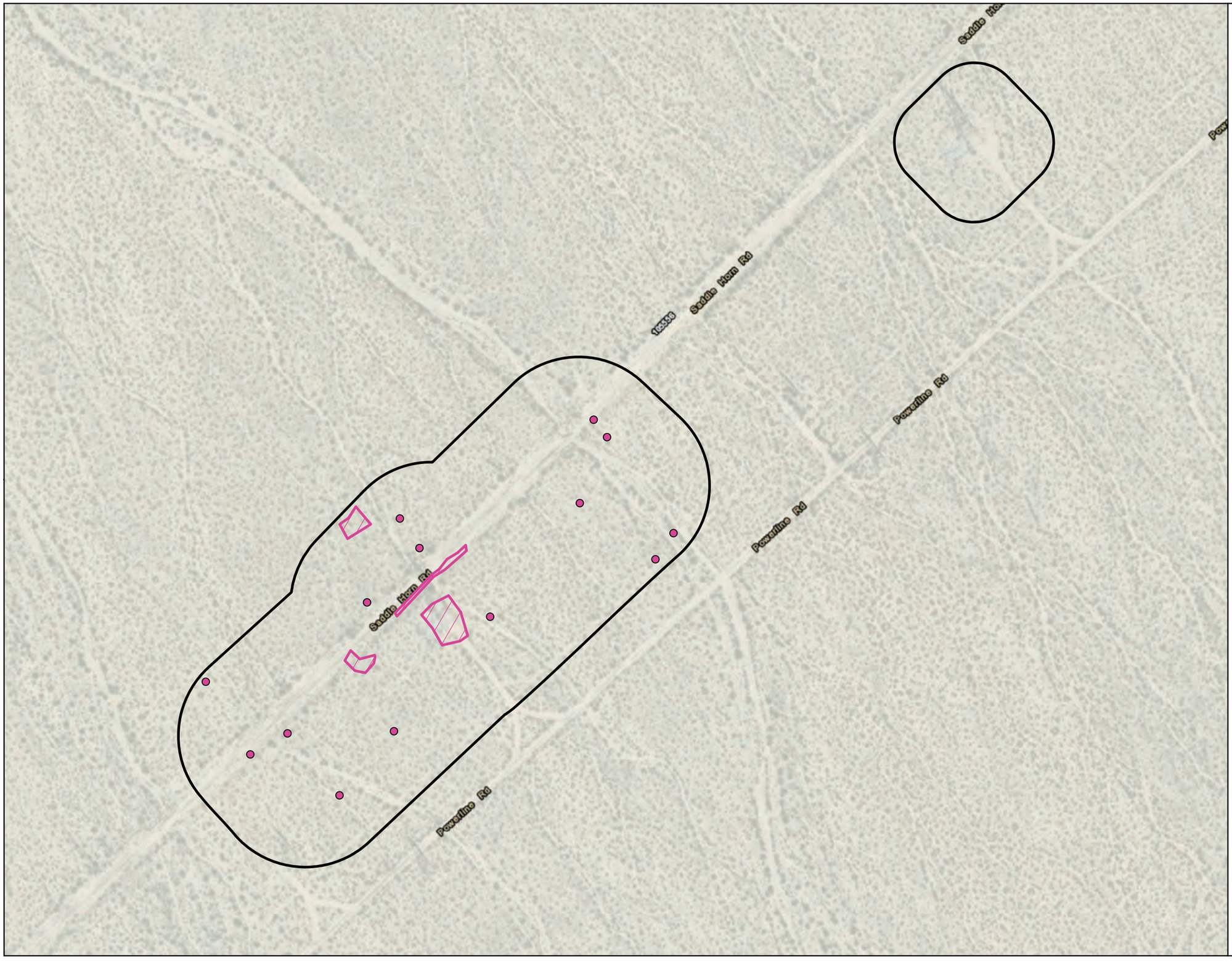
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

Desert portulaca

California Rare Pant Rank 4

Desert portulaca

Figure 3, Page 62 of 83

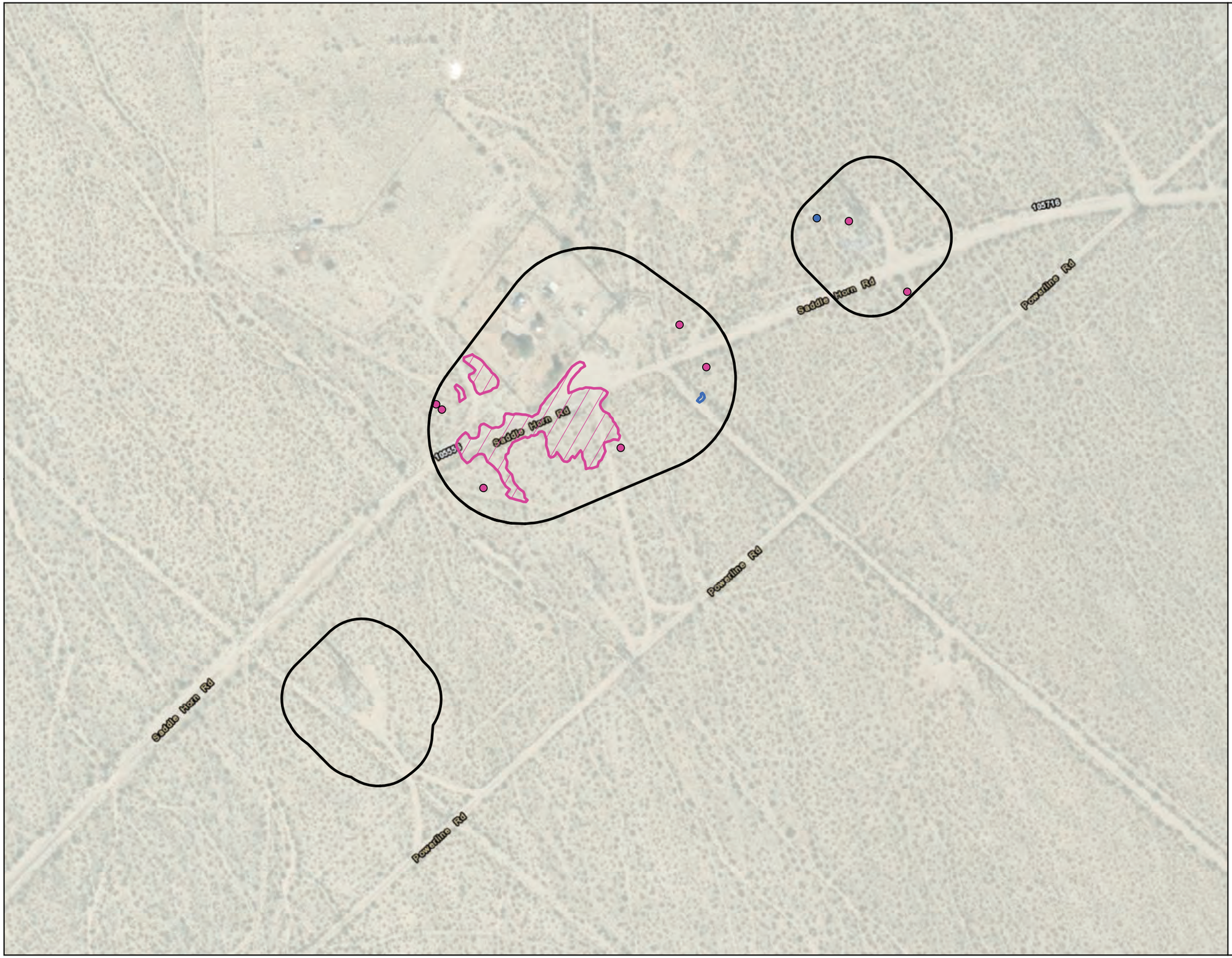
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

- Desert portulaca
- Warty caltrop

California Rare Pant Rank 4

- Desert portulaca
- Warty caltrop

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

- Desert portulaca
- Revolute spurge
- Warty caltrop

California Rare Pant Rank 4

- Warty caltrop

Figure 3, Page 64 of 83

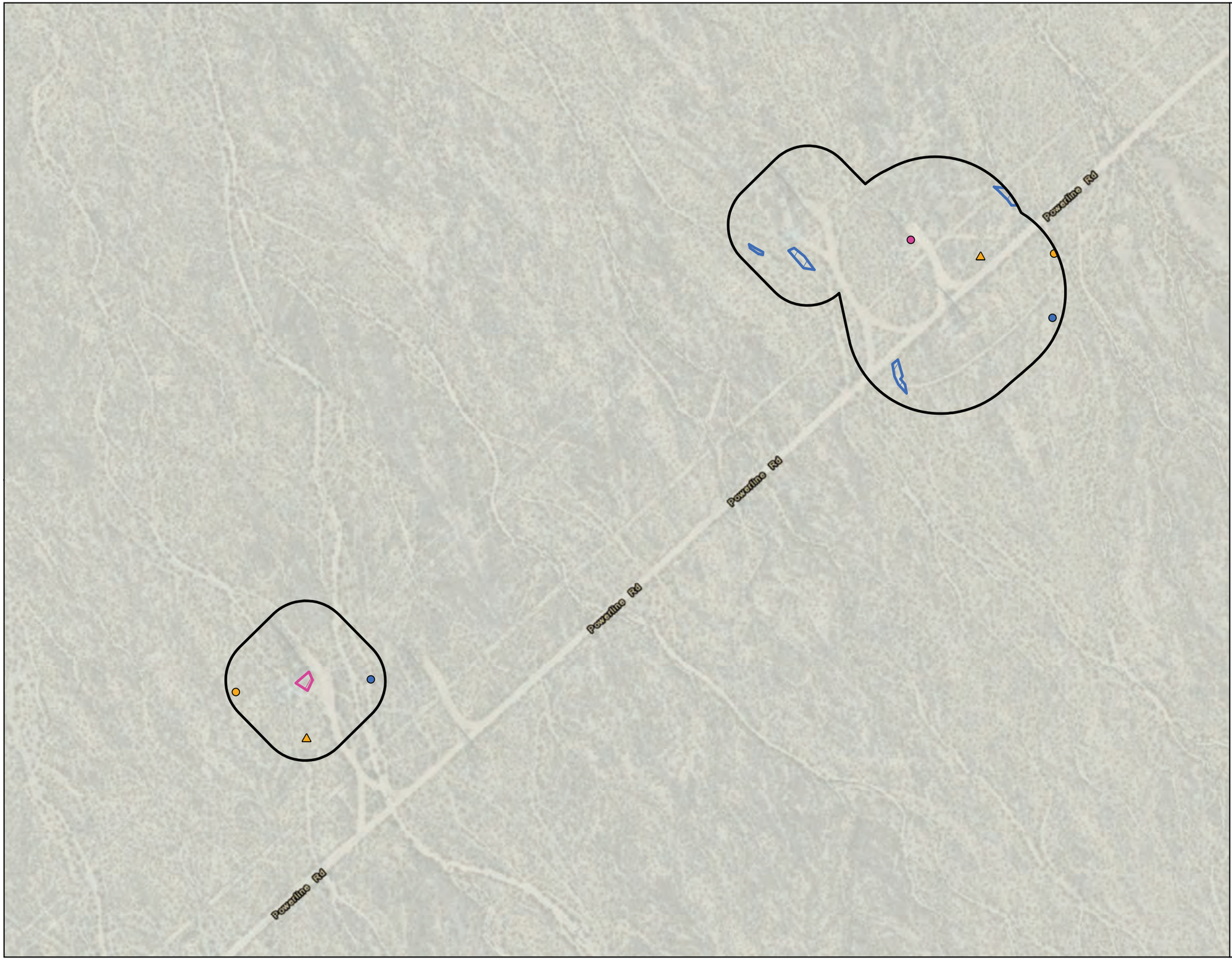
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Spring 2021 Survey Results

California Rare Pant Rank 2B

Parish's club-cholla

Fall 2021 Survey Results

California Rare Pant Rank 2B

Parish's club-cholla

California Rare Pant Rank 4

Desert portulaca

Warty caltrop

California Rare Pant Rank 4

Desert portulaca

Warty caltrop

Figure 3, Page 65 of 83

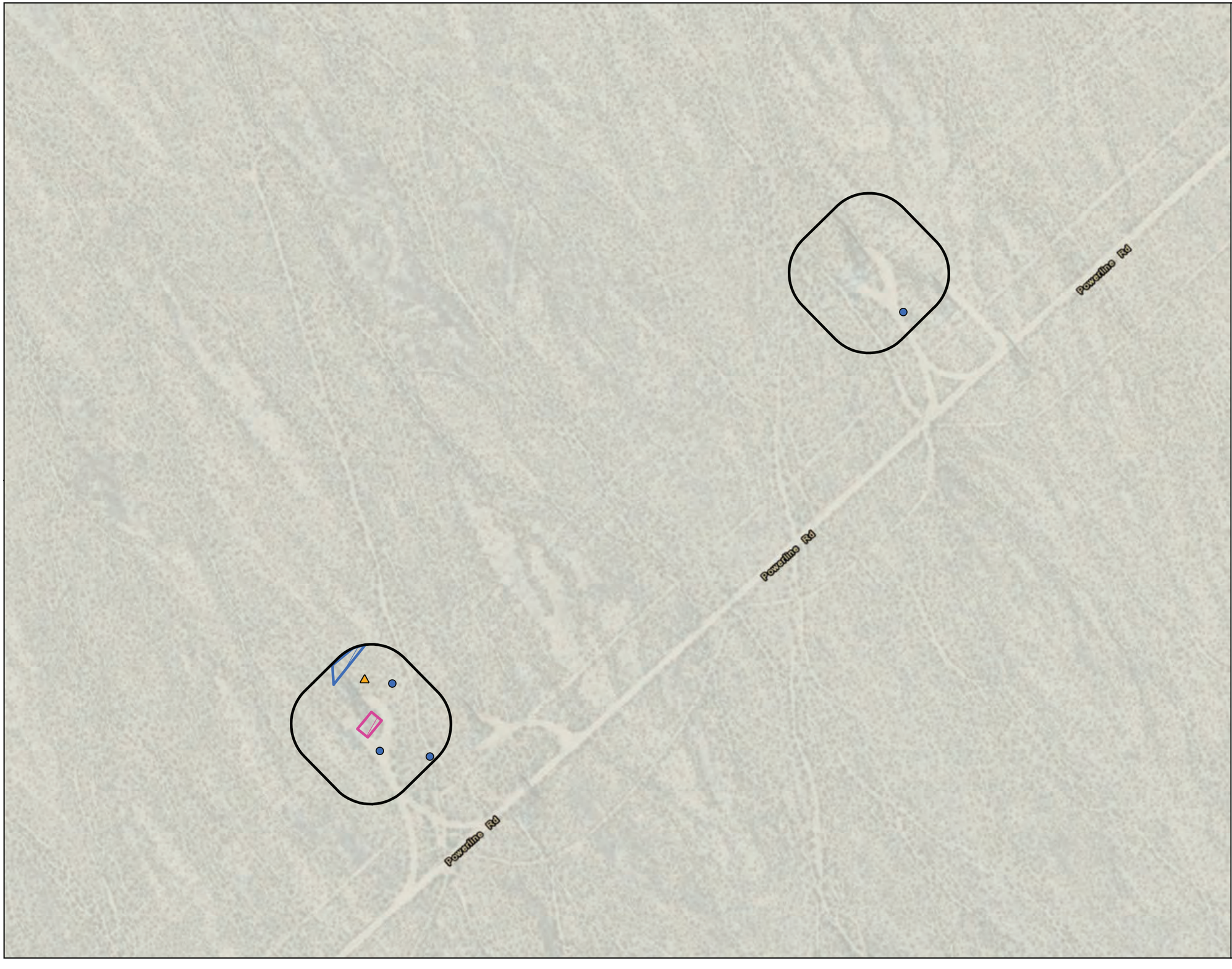
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Spring 2021 Survey Results

California Rare Pant Rank 2B

Parish's club-cholla

Fall 2021 Survey Results

California Rare Pant Rank 4

Warty caltrop

California Rare Pant Rank 4

Desert portulaca

Warty caltrop

Figure 3, Page 66 of 83

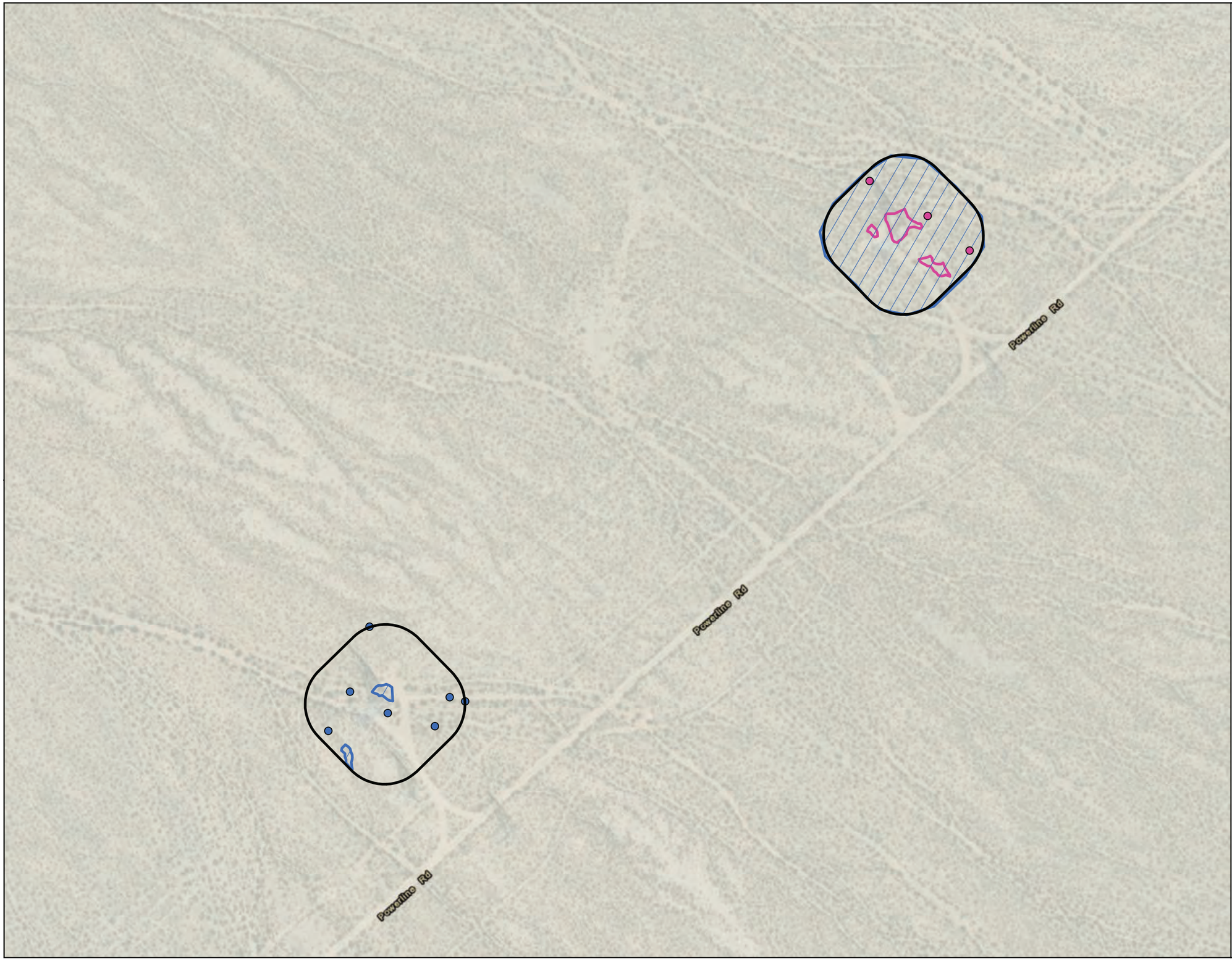
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

- Desert portulaca
- Warty caltrop

California Rare Pant Rank 4

- Desert portulaca
- Warty caltrop

Figure 3, Page 67 of 83

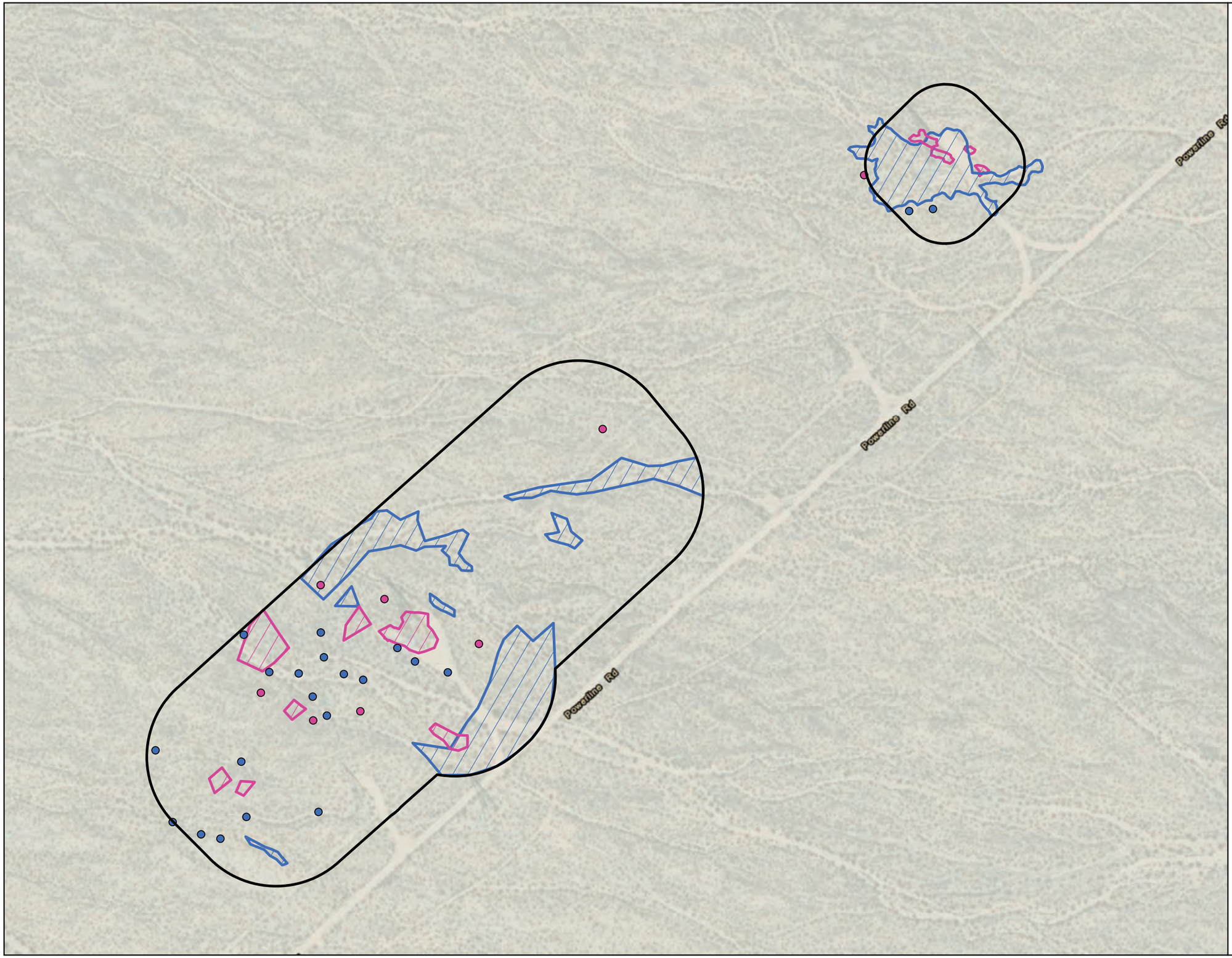
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

- Desert portulaca
- Warty caltrop

California Rare Pant Rank 4

- Desert portulaca
- Warty caltrop

Figure 3, Page 68 of 83

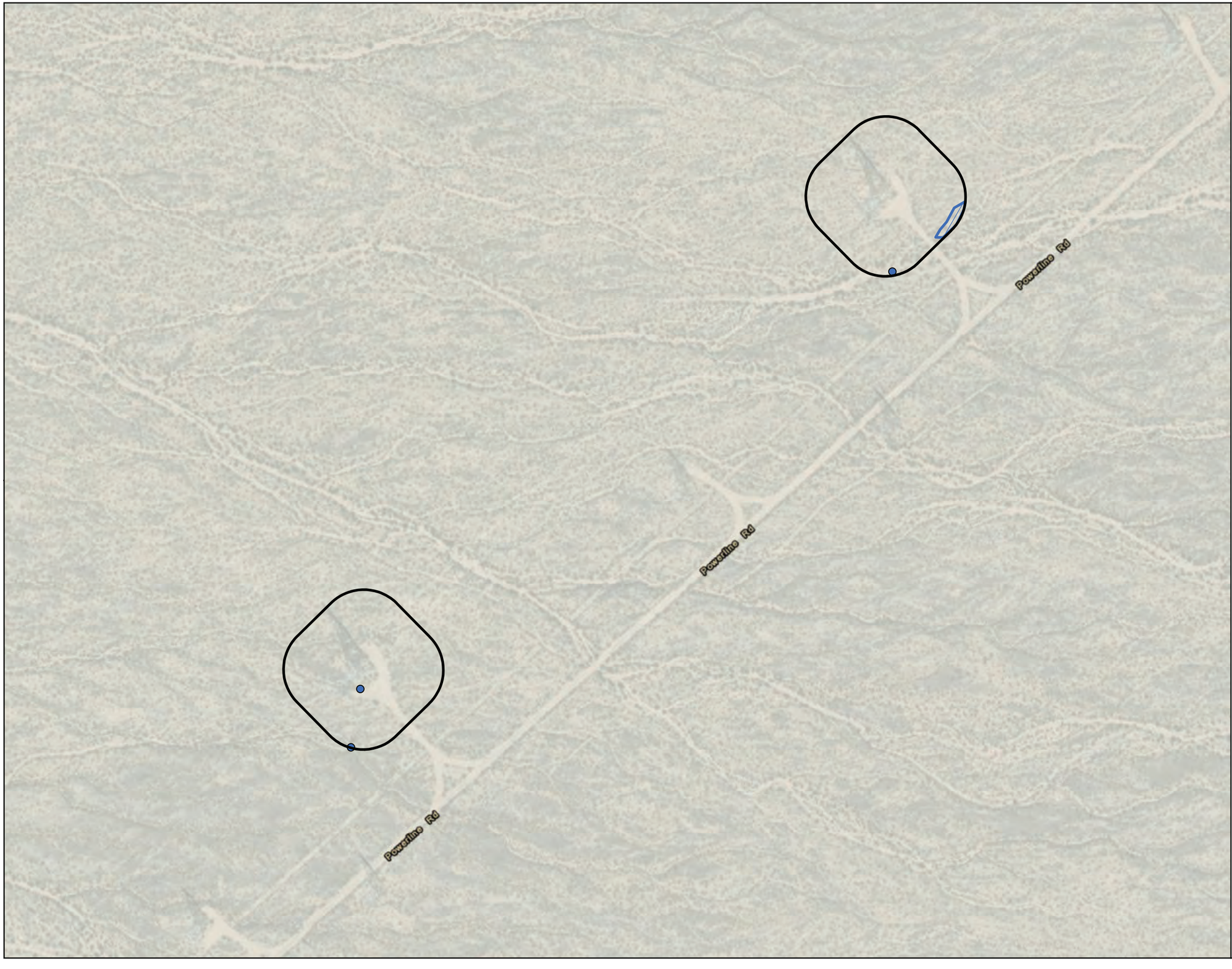
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

Warty caltrop

California Rare Pant Rank 4

Warty caltrop

Figure 3, Page 69 of 83

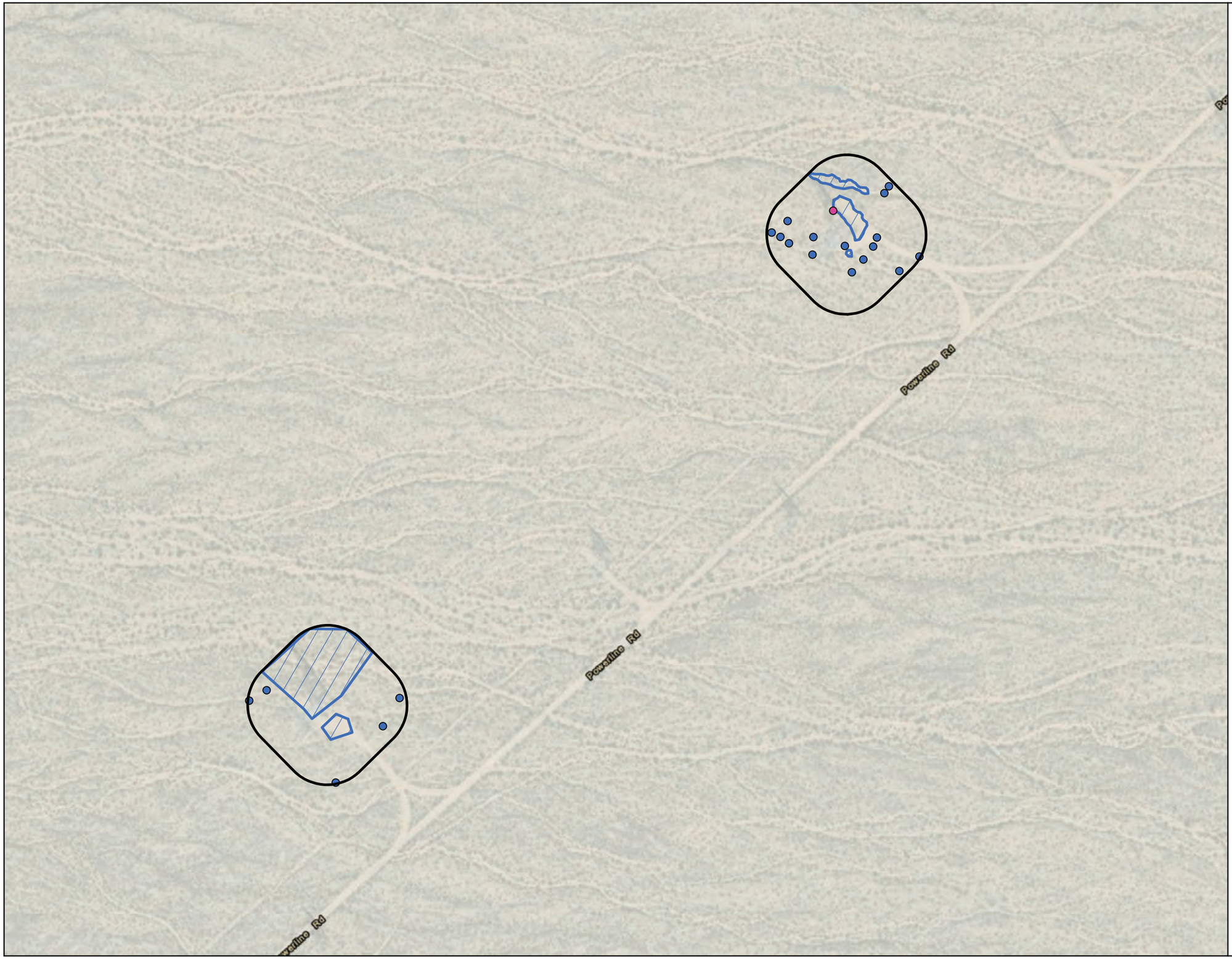
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

- Desert portulaca
- Warty caltrop

California Rare Pant Rank 4

- Warty caltrop

Figure 3, Page 70 of 83

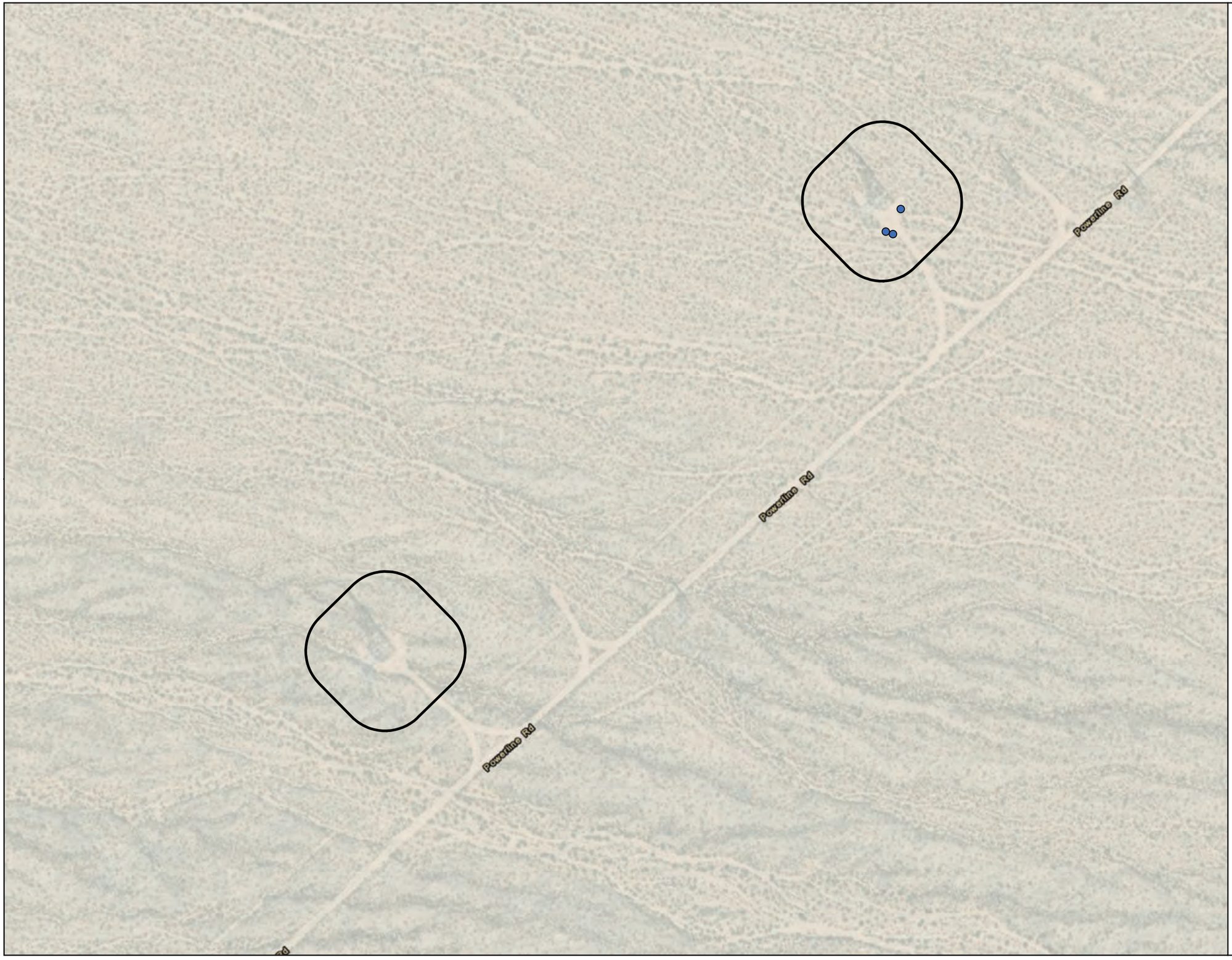
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

Warty caltrop

Figure 3, Page 71 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 2B

- Parish's club-cholla

California Rare Pant Rank 4

- Desert portulaca
- Warty caltrop

California Rare Pant Rank 4

- Desert portulaca
- Warty caltrop

Figure 3, Page 72 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

Warty caltrop

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

Warty caltrop

Figure 3, Page 74 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Plant Rank 2B

- Parish's club-cholla

Figure 3, Page 75 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

- Desert portulaca
- Warty caltrop

California Rare Pant Rank 4

- Desert portulaca

Figure 3, Page 76 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 4

Warty caltrop

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 2B

- Nineawn pappusgrass

California Rare Pant Rank 4

- Warty caltrop

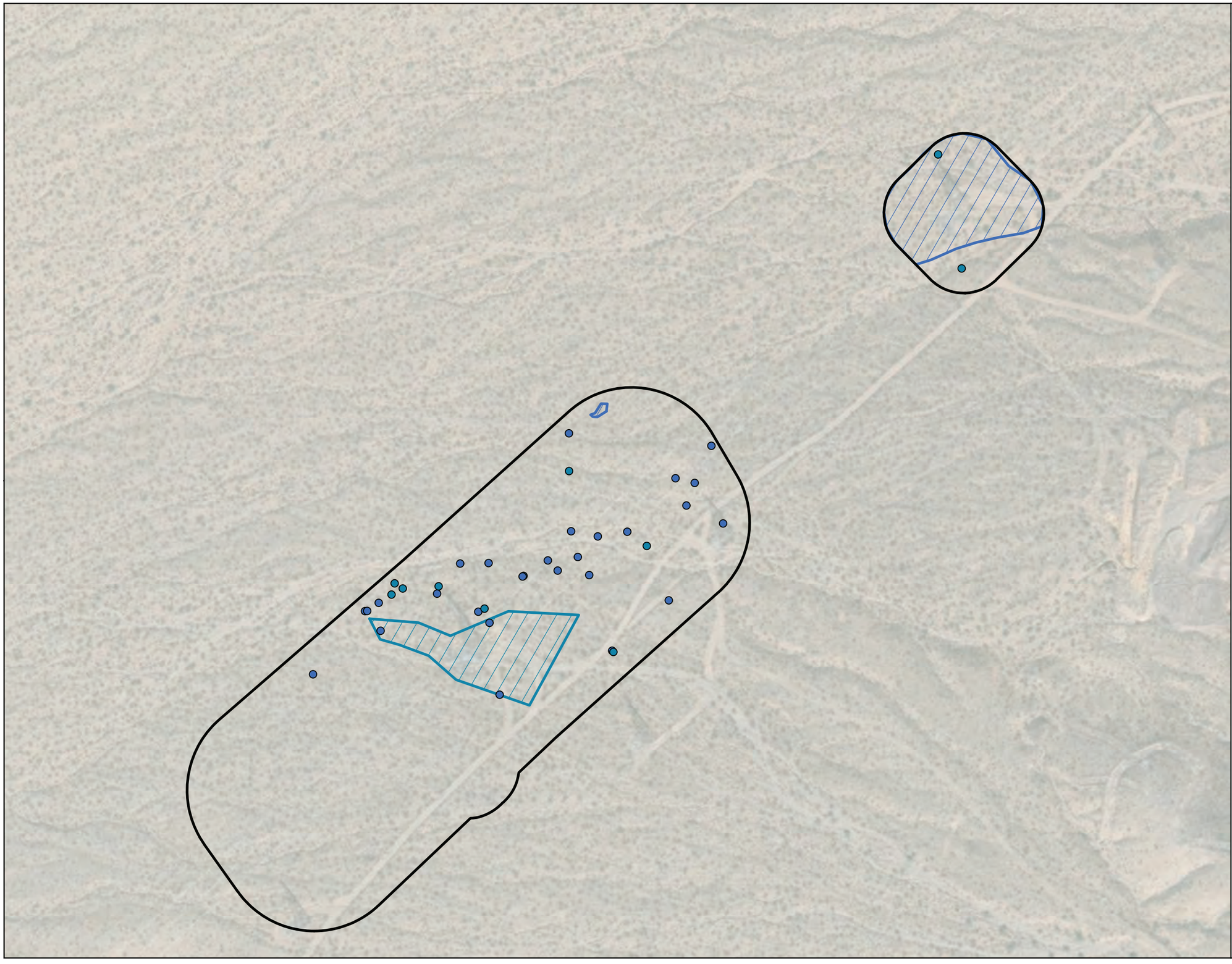
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 2B

Nineawn pappusgrass

California Rare Pant Rank 4

Warty caltrop

California Rare Pant Rank 2B

Nineawn pappusgrass

California Rare Pant Rank 4

Warty caltrop

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 2B

Nineawn pappusgrass

California Rare Pant Rank 4

Warty caltrop

Figure 3, Page 80 of 83

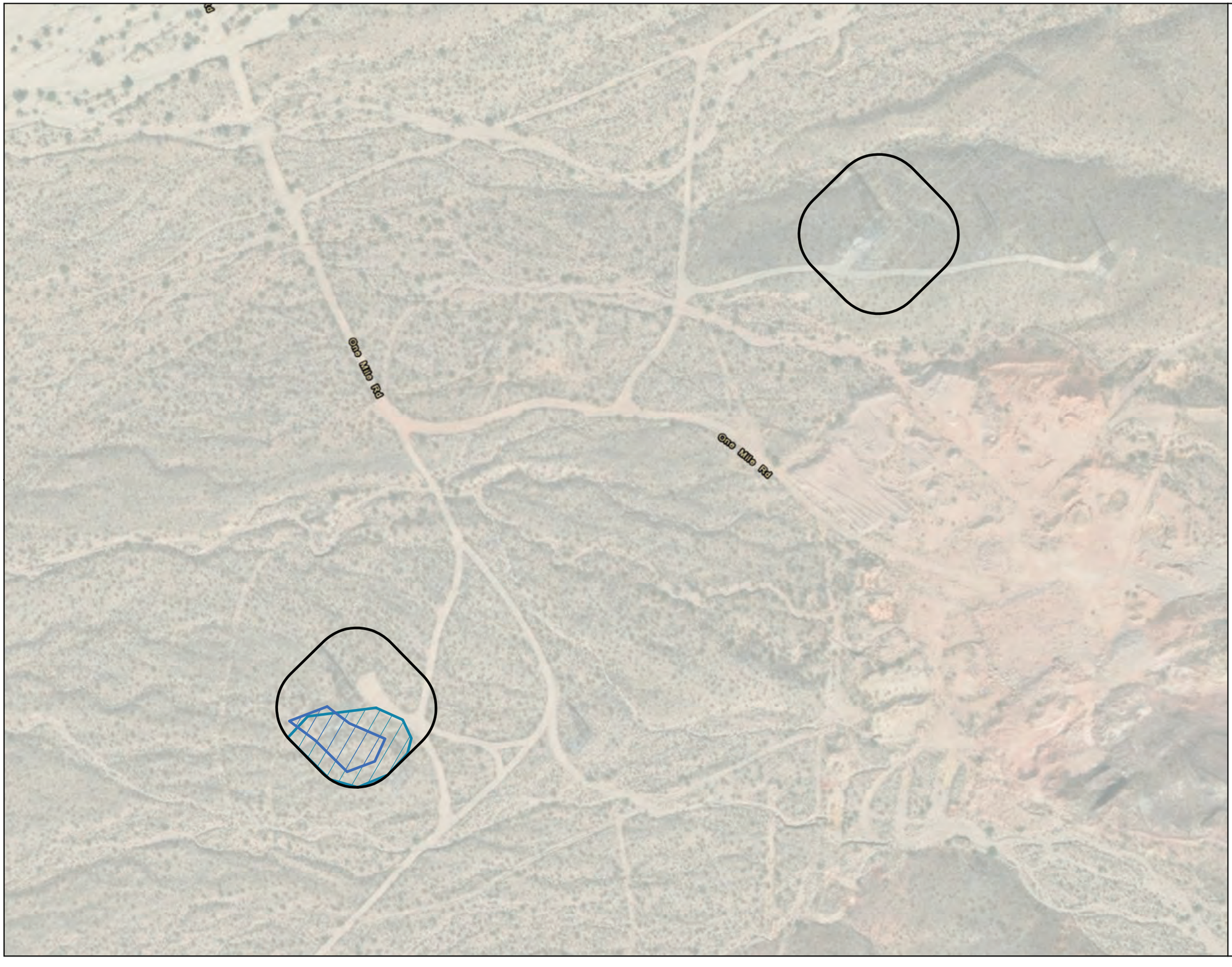
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 2B

Nineawn pappusgrass

California Rare Pant Rank 4

Warty caltrop

Figure 3, Page 81 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 2B

- Curved-spine beavertail
- Nineawn pappusgrass

California Rare Pant Rank 2B

- Nineawn pappusgrass

Figure 3, Page 82 of 83

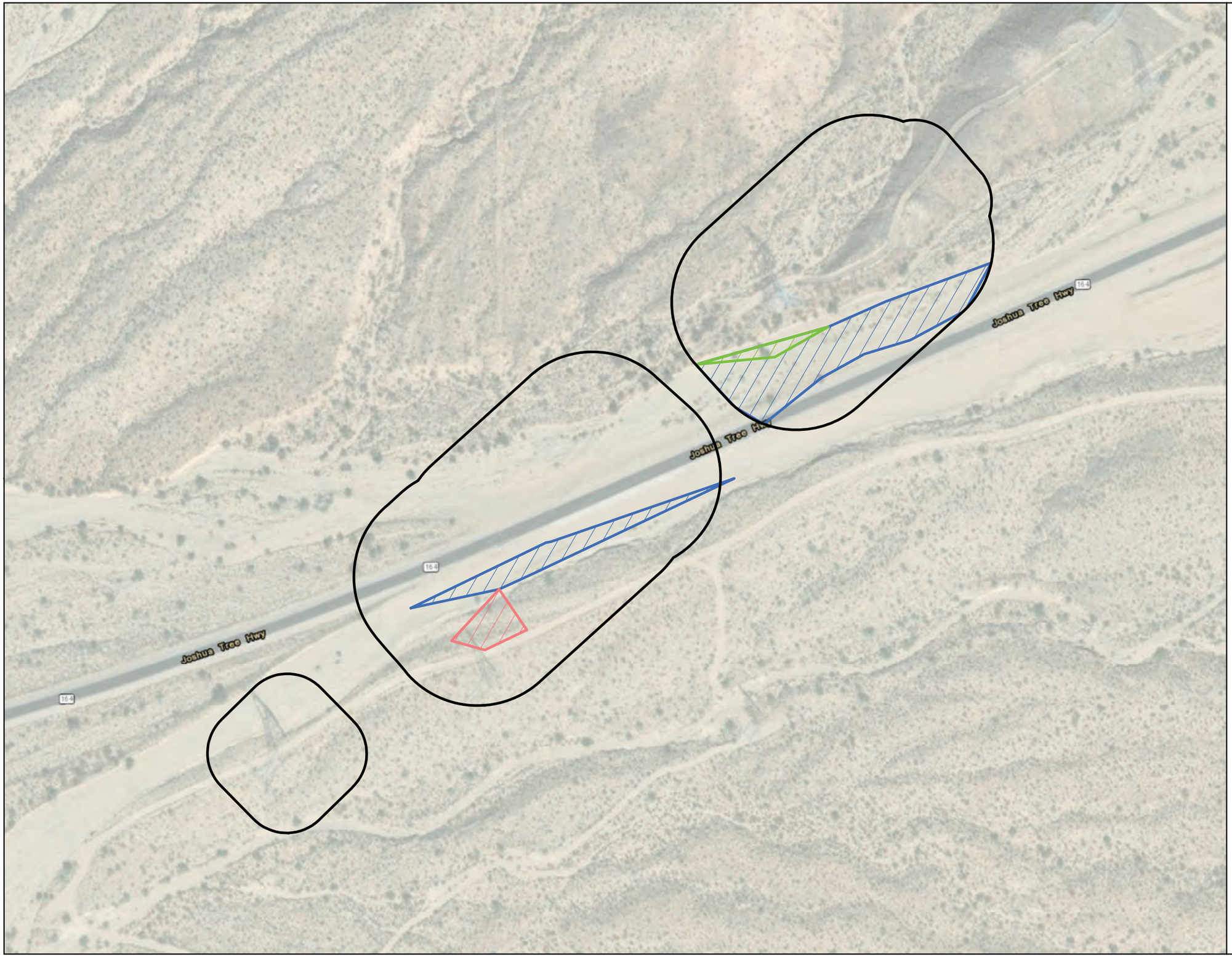
Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.



Fall 2021 Survey Area

Fall 2021 Survey Results

California Rare Pant Rank 2B

Clark Mountain spurge

California Rare Pant Rank 4

Revolute spurge

Warty caltrop

Figure 3, Page 83 of 83

Special-status Plant Observations

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
2021 SPECIAL-STATUS PLANT SURVEY REPORT

N

0 200 Feet

Artemis Environmental Services, Inc.

Appendix B

Special-status Plant Species Evaluation of Potential to Occur

LUGO-VICTORVILLE 500 KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT 2021 SPECIAL-STATUS PLANT SURVEY REPORT
APPENDIX B
SPECIAL-STATUS PLANT SPECIES EVALUATION OF POTENTIAL TO OCCUR

Scientific Name Common Name	—Status—		Flowering Period[1]	Habitat and Elevation[1]	Potential to Occur and Analysis	Season
Agave utahensis* var. *nevadensis Clark Mountain agave	Fed: State: CRPR: REG:	-- -- 4.2 --	May-Jul	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland; carbonate or volcanic. 2,950-5,200 ft.	Absent; conspicuous perennial not observed during surveys	Spring and Fall
Ageratina herbacea desert ageratina	Fed: State: CRPR: REG:	-- -- 2B.3 --	Jul-Oct	Pinyon and juniper woodland (rocky). 5,000-7,220 ft.	Absent; there are recent records within 2 miles, but the taxon was not observed during surveys	Fall
Aloysia wrightii Wright's beebrush	Fed: State: CRPR: REG:	-- -- 4.3 --	Apr-Oct	Joshua tree woodland, Pinyon and juniper woodland; rocky, often carbonate. 2,950-5,250 ft.	Absent; conspicuous perennial not observed during surveys	Spring and Fall
Androstephium breviflorum small-flowered androstephium	Fed: State: CRPR: REG:	-- -- 2B.2 --	Mar-Apr	Desert dunes, Mojavean desert scrub (bajadas). 685-2,920 ft.	Likely; there are recent (<25 years) records within 2 miles; poor spring conditions precluded surveys	Spring
Astragalus bernardinus San Bernardino milk-vetch	Fed: State: CRPR: REG:	BLMS -- 1B.2 --	Apr-Jun	Joshua tree woodland, Pinyon and juniper woodland; Often granitic or carbonate. 2,950-6,560 ft.	Occurs; three plants were mapped near the Cima substation	Spring
Astragalus cimae var. cimae Cima milk-vetch	Fed: State: CRPR: REG:	BLMS -- 1B.2 CDCA	Apr-May	Great Basin scrub, Joshua tree woodland, Pinyon and juniper woodland; clay. 2,915-6,070 ft.	Likely; there are recent (<25 years) records within 2 miles; poor spring conditions precluded surveys in all areas of suitable habitat	Spring
Astragalus lentiginosus* var. *borreganus Borrego milk-vetch	Fed: State: CRPR: REG:	-- -- 4.3 --	Feb-May	Mojavean desert scrub, Sonoran desert scrub; sandy. 95-2,935 ft.	Unlikely; there are recent (<25 years) records within 5 miles; poor spring conditions precluded surveys	Spring

Scientific Name Common Name	—Status—		Flowering Period[1]	Habitat and Elevation[1]	Potential to Occur and Analysis	Season
Berberis fremontii Fremont barberry	Fed: State: CRPR: REG:	-- -- 2B.3 --	Mar-May	Joshua tree woodland, Pinyon and juniper woodland; Rocky, sometimes granitic. 3,755-5,645 ft.	Absent; conspicuous perennial not observed during surveys	Spring
Blepharidachne kingii King's eyelash grass	Fed: State: CRPR: REG:	-- -- 2B.3 --	May	Great Basin scrub, usually carbonate. 3,495 – 7,005 ft.	Unlikely; there are recent (<25 years) records within 5 miles; poor spring conditions precluded surveys	Spring
Bouteloua eriopoda black grama	Fed: State: CRPR: REG:	-- -- 4.2 --	May-Aug	Joshua tree woodland, Pinyon and juniper woodland. 2,950-6,235 ft.	Absent; there are recent records within 5 miles, but the taxon was not observed during surveys	Spring and Fall
Castela emoryi Emory's crucifixion-thorn	Fed: State: CRPR: REG:	-- -- 2B.2 --	(Apr)Jun-Jul (Sep-Oct)	Mojavean desert scrub, Playas, Sonoran desert scrub; gravelly. 295-2,380 ft.	Occurs; six plants were mapped in the southern portion of Segment 2	Spring and Fall
Coryphantha chlorantha desert pincushion	Fed: State: CRPR: REG:	-- -- 2B.1 --	Apr-Sep	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland; carbonate, gravelly, rocky. 145-5,595 ft.	Absent; conspicuous perennial not observed during surveys	Spring and Fall
Coryphantha vivipara var. ***rosea*** viviparous foxtail cactus	Fed: State: CRPR: REG:	-- -- 2B.2 CDCA	May-Jun	Mojavean desert scrub, Pinyon and juniper woodland; carbonate. 4,100-8,860 ft.	Occurs; 92 plants were mapped near Cima in the Mojave National Preserve	Spring
Cryptantha clokeyi Clokey's cryptantha	Fed: State: CRPR: REG:	BLMS -- 1B.2 --	Apr	Mojavean desert scrub. 2,380 – 4,480 ft.	Unlikely; there are recent (<25 years) records within 5 miles; poor spring conditions precluded surveys	Spring
Cuscuta californica var. ***apiculata*** pointed dodder	Fed: State: CRPR: REG:	-- -- 3 --	Feb-Aug	Mojavean desert scrub, Sonoran desert scrub; sandy. 0-1,640 ft.	Unlikely; there are recent (<25 years) records within 5 miles; poor spring conditions precluded surveys	Spring and Fall

Scientific Name Common Name	—Status—		Flowering Period[1]	Habitat and Elevation[1]	Potential to Occur and Analysis	Season
Cymopterus multinervatus purple-nerve cymopterus	Fed: State: CRPR: REG:	-- -- 2B.2 --	Mar-Apr	Mojavean desert scrub, Pinyon and juniper woodland; sandy or gravelly. 2,590-5,905 ft.	Occurs; 46 plants were mapped near Cima in the Mojave National Preserve	Spring
Diplacus mohavensis Mojave monkeyflower	Fed: State: CRPR: REG:	BLMS -- 1B.2 DRECP	Apr-Jun	Joshua tree woodland, Mojavean desert scrub; sandy or gravelly, often in washes. 1,980-3,960 ft.	Unlikely; there are recent (<25 years) records within 2 miles; poor spring conditions precluded surveys	Spring
Enneapogon desvauxii nine-awned pappus grass	Fed: State: CRPR: REG:	-- -- 2B.2 --	Aug-Sep	Pinyon and juniper woodland (rocky, carbonate). 4,180-5,990 ft.	Occurs; about 551 plants were mapped in the northeastern portion of the Survey Area	Fall
Eremothera boothii* ssp. *boothii Booth's evening-primrose	Fed: State: CRPR: REG:	-- -- 2B.3 --	Apr-Sep	Joshua tree woodland, Pinyon and juniper woodland. 2,670-7,875 ft.	Absent; there are recent records within 5 miles, but the taxon was not observed during surveys	Spring and Fall
Eriastrum harwoodii Harwood's eriastrum	Fed: State: CRPR: REG:	BLMS -- 1B.2 --	Mar-Jun	Desert dunes. 410-3,000 ft.	Occurs; about 841 skeletons from the spring of 2020 were mapped in the Devil's Playground portion of the Mojave National Preserve	Spring
Eriogonum heermannii* var. *floccosum Clark Mountain buckwheat	Fed: State: CRPR: REG:	-- -- 4.3 --	Aug-Oct	Pinyon and juniper woodland (carbonate). 2,950-7,875 ft.	Absent; conspicuous perennial not observed during surveys	Fall
Erioneuron pilosum hairy erioneuron	Fed: State: CRPR: REG:	-- -- 2B.3 --	(Apr) May-Jun	Pinyon and juniper woodland (rocky, sometimes carbonate). 4,655-6,595 ft.	Likely; there are recent (<25 years) records within 2 miles. Poor spring conditions precluded surveys	Spring
Euphorbia abramsiana Abrams' spurge	Fed: State: CRPR: REG:	-- -- 2B.2 --	(Aug)Sep-Nov	Mojavean desert scrub, Sonoran desert scrub; sandy. -15-4,300 ft.	Occurs; about 5,467 plants were mapped near the Pisgah lava flow of Segment 1	Fall

Scientific Name Common Name	—Status—		Flowering Period[1]	Habitat and Elevation[1]	Potential to Occur and Analysis	Season
Euphorbia exstipulata* var. *exstipulata Clark Mountain spurge	Fed: State: CRPR: REG:	-- -- 2B.1 --	Sep	Mojavean desert scrub (rocky). 4,195-6,560 ft.	Occurs; 30 plants were mapped in Nevada	Fall
Euphorbia revoluta revolute spurge	Fed: State: CRPR: REG:	-- -- 4.3 --	Aug-Sep	Mojavean desert scrub (rocky); 3,590-10,170 ft.	Occurs; 10 plants were mapped in Nevada	Fall
Funastrum utahense Utah vine milkweed	Fed: State: CRPR: REG:	-- -- 4.2 --	(Mar)Apr-Jun (Sep-Oct)	Mojavean desert scrub, Sonoran desert scrub; sandy or gravelly. 325-4,710 ft.	Occurs; 91 plants were mapped throughout the central portion of the Survey Area	Spring and Fall
Grusonia parishii Parish's club-cholla	Fed: State: CRPR: REG:	-- -- 2B.2 --	May-Jun (Jul)	Joshua tree woodland, Mojavean desert scrub, Sonoran desert scrub; sandy, rocky. 980-5,000 ft.	Occurs; 58 plants were mapped within the Mojave National Preserve	Spring and Fall
Kallstroemia parviflora warty caltrop	Fed: State: CRPR: REG:	-- -- 4.2 --	Aug-Nov	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland; Sometimes disturbed areas. 2,805-5,595 ft.	Occurs; about 4,234 plants were mapped near the eastern end of the Survey Area	Fall
Lycium torreyi Torrey's box-thorn	Fed: State: CRPR: REG:	-- -- 4.2 --	(Jan-Feb) Mar-Jun (Sep-Nov)	Mojavean desert scrub, Sonoran desert scrub; Sandy, rocky, washes, streambanks, desert valleys. -160-4,005 ft.	Absent; conspicuous perennial not observed during surveys	Spring and Fall
Menodora spinescens* var. *mohavensis Mojave menodora	Fed: State: CRPR: REG:	BLMS -- 1B.2 --	Apr-May	Mojavean desert scrub; Andesite gravel, rocky hillsides, canyons. 2,260-6,560 ft.	Absent; conspicuous perennial not observed during surveys	Spring
Mentzelia puberula Darlington's blazing star	Fed: State: CRPR: REG:	-- -- 2B.2 --	Mar-May	Mojavean desert scrub, Sonoran desert scrub; sandy or rocky. 295-4,200 ft.	Likely; there are recent (<25 years) records within 2 miles; poor spring conditions precluded surveys	Spring

Scientific Name Common Name	—Status—		Flowering Period[1]	Habitat and Elevation[1]	Potential to Occur and Analysis	Season
Mentzelia tridentata creamy blazing star	Fed: State: CRPR: REG:	BLMS -- 1B.3 --	Mar-May	Mojavean desert scrub; generally rocky . 2,310-3,875 ft.	Does Not Occur; there are recent (<25 years) records within 2 miles, but no suitable talus habitat is present; poor spring conditions precluded surveys	Spring
Mirabilis coccinea red four o'clock	Fed: State: CRPR: REG:	-- -- 2B.3 --	May-Jul	Pinyon and juniper woodland. 3,510-5,905 ft.	Absent; there are recent records within 5 miles, but the taxon was not observed during surveys	Spring and Fall
Muilla coronata crowned muilla	Fed: State: CRPR: REG:	-- -- 4.2 --	Mar-Apr (May)	Chenopod scrub, Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland. 2,195-6,430 ft.	Unlikely; there are recent (<25 years) records within 5 miles; poor spring conditions precluded surveys	Spring
Munroa squarrosa false buffalo-grass	Fed: State: CRPR: REG:	-- -- 2B.2 --	Oct	Pinyon and juniper woodland, gravelly or rocky. 4,920 -5,905 ft.	Absent; there are recent records within 5 miles, but the taxon was not observed during surveys	Fall
Nemacaulis denudata* var. *gracilis slender cottonheads	Fed: State: CRPR: REG:	-- -- 2B.2 --	(Mar)Apr-May	Coastal dunes, Desert dunes, Sonoran desert scrub. -160-1,310 ft.	Likely; there are recent (<25 years) records within 2 miles; poor spring conditions precluded surveys	Spring
Opuntia xcurvispina curved-spine beavertail	Fed: State: CRPR: REG:	-- -- 2B.2 --	Apr-Jun	Chaparral, Mojavean desert scrub, Pinyon and juniper woodland. 3,280-4,595 ft.	Occurs; 4 plants were mapped within the Mojave National Preserve	Spring
Pediomelum castoreum Beaver Dam breadroot	Fed: State: CRPR: REG:	BLMS -- 1B.2 --	Apr-May	Joshua tree woodland, Mojavean desert scrub; sandy. 2,000-5,030 ft.	Likely; there are recent (<25 years) records within 2 miles; poor spring conditions precluded surveys	Spring
Pellaea truncata spiny cliff-brake	Fed: State: CRPR: REG:	-- -- 2B.3 --	Apr-Jun	Pinyon and juniper woodland (volcanic or granitic, rocky). 3,935-7,055 ft.	Unlikely; there are recent (<25 years) records within 5 miles; poor spring conditions precluded surveys	Spring

Scientific Name Common Name	—Status—		Flowering Period[1]	Habitat and Elevation[1]	Potential to Occur and Analysis	Season
Penstemon albomarginatus white-margined beardtongue	Fed: State: CRPR: REG:	BLMS -- 1B.1 --	Mar-May (Jun)	Desert dunes (stabilized), Mojavean desert scrub (sandy). 2,095-3,495 ft.	Occurs; 4 plants were mapped near the Pisgah substation	Spring
Penstemon pseudospectabilis* ssp. *pseudospectabilis desert beardtongue	Fed: State: CRPR: REG:	-- -- 2B.2 --	Jan-May	Mojavean desert scrub, Sonoran desert scrub; often sandy washes, sometimes rocky. 260-6,350 ft.	Likely; there are recent (<25 years) records within 2 miles; poor spring conditions precluded surveys	Spring
Penstemon utahensis Utah beardtongue	Fed: State: CRPR: REG:	-- -- 2B.3 --	Apr-May	Chenopod scrub, Great Basin scrub, Mojavean desert scrub, Pinyon and juniper woodland; rocky. 3,490-8,200 ft.	Likely; there are recent (<25 years) records within 2 miles; poor spring conditions precluded surveys	Spring
Phacelia coerulea sky-blue phacelia	Fed: State: CRPR: REG:	-- -- 2B.3 --	Apr-May	Mojavean desert scrub, Pinyon and juniper woodland. 4,590-6,560 ft.	Likely; there are recent (<25 years) records within 2 miles; poor spring conditions precluded surveys	Spring
Phacelia parishii Parish's phacelia	Fed: State: CRPR: REG:	BLMS -- 1B.1 --	Apr-May (Jun), (Jul)	Mojavean desert scrub, Playas/clay or alkaline. 1,770 -3,935 ft.	Unlikely; there are recent (<25 years) records within 5 miles; poor spring conditions precluded surveys	Spring
Polygala acanthoclada thorny milkwort	Fed: State: CRPR: REG:	-- -- 2B.3 --	May-Aug	Chenopod scrub, Joshua tree woodland, Pinyon and juniper woodland. 2,490-7,495 ft.	Absent; conspicuous perennial not observed during surveys	Spring and Fall
Portulaca halimoides desert portulaca	Fed: State: CRPR: REG:	-- -- 4.2 --	Sep	Joshua tree woodland (sandy). 3,280-3,935 ft.	Occurs; about 20,109 plants were mapped near the eastern end of the Survey Area	Fall
Psorothamnus arborescens* var. *arborescens Mojave indigo-bush	Fed: State: CRPR: REG:	-- -- 4.3 --	Apr-May	Mojavean desert scrub, Riparian scrub. 1,310 -3,890 ft.	Absent; conspicuous perennial not observed during surveys	Spring

Scientific Name Common Name	—Status—		Flowering Period[1]	Habitat and Elevation[1]	Potential to Occur and Analysis	Season
Quercus turbinella shrub live oak	Fed: State: CRPR: REG:	-- -- 4.3 --	Apr-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest, Pinyon and juniper woodland. 3,935 -6,560 ft.	Absent; conspicuous perennial not observed during surveys	Spring
Sibara deserti desert winged-rockcress	Fed: State: CRPR: REG:	-- -- 4.3 --	Mar-Apr	Mojavean desert scrub. 1,140-4,290 ft.	Unlikely; there are recent (<25 years) records within 5 miles; poor spring conditions precluded surveys	Spring
Sphaeralcea rusbyi* var. *eremicola Rusby's desert-mallow	Fed: State: CRPR: REG:	BLMS -- 1B.2 CDCA	Mar-Jun	Joshua tree woodland, Mojavean desert scrub. 3,195-5,395 ft.	Occurs; about 807 plants were mapped in the central portion of the Mojave National Preserve	Spring
Xanthisma gracile annual bristleweed	Fed: State: CRPR: REG:	-- -- 4.3 --	Apr-Jul (Sep)	Joshua tree woodland, Mojavean desert scrub. 4,000-5,100 ft.	Absent; there are recent records within 5 miles, but the taxon was not observed during surveys	Spring and Fall

[1] California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39).

Sensitivity Status Key

CNPS Threat Ranks:

0.1 = Seriously threatened in California (over 80 percent of occurrences threatened, high degree and immediacy of threat)

0.2 = Moderately threatened in California (20 to 80 percent of occurrences threatened, moderate degree and immediacy of threat)

0.3 = Not very threatened in California (less than 20 percent of occurrences threatened, low degree and immediacy of threat or no current threats known)

Regional (REG):

CDCA = California Desert Conservation Area Covered

DRECP = Desert Renewable Energy Conservation Plans Covered

-- = No Listing

State (California):

-- = No Listing

Federal (Fed):

BLMS = BLM Sensitive

-- = No Listing

California Rare Plant Rank (CRPR):

1A = Plants presumed extinct in California

1B = Plants rare and endangered in California and throughout their range

2A = Plants presumed extirpated in California, but more common elsewhere

2B = Plants rare, threatened, or endangered in California, but more common elsewhere

3 = Plants about which more information is needed; a review list

4 = Plants of limited distribution; a watch list

Appendix C

Representative Photographs

Photo 1: San Bernardino milk-vetch observed in the MNP during spring surveys (4/22/2021).

Photo 2: Crucifixion thorn observed in Segment 2 (9/03/2021).

Photo 3: Viviparous foxtail cactus observed in Segment 2 (4/08/2021).

Photo 4: Purple-nerve cymopterus observed in Segment 2 (4/12/2021).

Photo 5: Nine-awn pappusgrass in the far eastern portion of the Survey Area (9/20/2021).

Photo 6: Harwood's eriastrum remains observed in Segment 2 (9/27/2021).

Photo 7: Abrams' spurge observed in Segment 1 (9/01/2021).

Photo 8: Clark Mountain spurge in the far eastern Nevada portion of the Survey Area (9/09/2021).

Photo 9: Revolute spurge observed in Segment 2 (8/24/2021).

Photo 10: Utah vine milkweed observed in Segment 2 (9/02/2021).

Photo 11: Matted cholla observed in Segment 2 (9/22/2021).

Photo 12: Warty caltrop observed in Segment 2 (9/21/2021).

Photo 13: Curved-spine beavertail within the MNP (9/30/2021).

Photo 14: White-margined beardtongue remains observed in Segment 1 (9/02/2021).

Photo 15: Desert portulaca observed in Segment 2 (9/21/2021).

Photo 16: Rusby's desert-mallow observed in Segment 2 (4/09/2021).

Photo 17: Black grama observed near Segment 2 during a reference check (8/24/2021).

Photo 18: Abram's spurge observed near Segment 1 during a reference check (8/24/2021).

Photo 19: Utah vine milkweed observed in Segment 1 during a reference check (8/24/2021).

Photo 20: Warty caltrop observed near Segment 2 during a reference check (8/24/2021).

Photo 21: Desert portulaca (left) and purslane (right) observed near Segment 2 during a reference check (8/24/2021).

Appendix D

Plant Species Observed

LUGO-VICTORVILLE 500 KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT
SPECIAL-STATUS PLANT SURVEY

APPENDIX D
PLANT SPECIES OBSERVED

Family	Scientific Name	Common Name	Status
Agavaceae	*Hesperocallis undulata*	desert lily	
Agavaceae	*Yucca baccata* var. *baccata*	banana yucca	
Agavaceae	*Yucca brevifolia*	Joshua tree	
Agavaceae	*Yucca schidigera*	Mojave yucca	
Aizoaceae	*Trianthema portulacastrum*	desert horsepurslane	
Amaranthaceae	*Amaranthus albus**	prostrate pigweed	
Amaranthaceae	*Amaranthus fimbriatus*	fringed amaranth	
Amaranthaceae	*Tidestromia suffruticosa* var. *oblongifolia*	honeysweet	
Apiaceae	*Cymopterus multinervatus*	purple-nerve cymopterus	2B.2
Apocynaceae	*Asclepias erosa*	desert milkweed	
Apocynaceae	*Asclepias subulata*	rush milkweed	
Apocynaceae	*Funastrum hirtellum*	trailing townula	
Apocynaceae	*Funastrum utahense*	Utah vine milkweed	4.2
Asteraceae	*Acamptopappus sphaerocephalus*	rayless goldenhead	
Asteraceae	*Adenophyllum cooperi*	Cooper's dogweed	
Asteraceae	*Adenophyllum porophylloides*	San Felipe dogweed	
Asteraceae	*Ambrosia ×platyspina*	hybrid bursage	
Asteraceae	*Ambrosia acanthicarpa*	annual bursage	
Asteraceae	*Ambrosia dumosa*	white bursage	
Asteraceae	*Ambrosia eriocentra*	woolly bursage	
Asteraceae	*Ambrosia salsola*	cheesebush	
Asteraceae	*Amphipappus fremontii*	Fremont's chaffbush	
Asteraceae	*Baccharis brachyphylla*	shortleaf baccharis	
Asteraceae	*Baileya multiradiata*	desert marigold	
Asteraceae	*Bebbia juncea* var. *aspera*	sweetbush	
Asteraceae	*Brickellia atractyloides*	spearleaf brickellbush	
Asteraceae	*Brickellia incana*	woolly brickellbush	
Asteraceae	*Chaenactis carphoclinia* var. *carphoclinia*	pebble pincushion	
Asteraceae	*Chaenactis fremontii*	Fremont pincushion	
Asteraceae	*Chaenactis stevioides*	desert pincushion	
Asteraceae	*Dieteria canescens* var. *leucanthemifolia*	hoary aster	
Asteraceae	*Encelia farinosa*	brittlebush	
Asteraceae	*Encelia frutescens*	button brittlebush	
Asteraceae	*Encelia virginensis*	Virgin River brittlebush	
Asteraceae	*Ericameria cooperi* var. *cooperi*	Cooper's goldenbush	
Asteraceae	*Ericameria linearifolia*	interior goldenbush	
Asteraceae	*Ericameria paniculata*	black-banded rabbitbrush	
Asteraceae	*Ericameria teretifolia*	green rabbitbrush	
Asteraceae	*Eriophyllum wallacei*	Wallace's woolly daisy	
Asteraceae	*Geraea canescens*	desert sunflower	

Family	Scientific Name	Common Name	Status
Asteraceae	*Gutierrezia microcephala*	sticky snakeweed	
Asteraceae	*Gutierrezia sarothrae*	matchweed	
Asteraceae	*Layia glandulosa*	white layia	
Asteraceae	*Logfia depressa*	hierba limpia	
Asteraceae	*Malacothrix coulteri*	snake's-head	
Asteraceae	*Malacothrix glabrata*	desert dandelion	
Asteraceae	*Palafoxia arida*	desert palafox	
Asteraceae	*Pectis papposa* var. *papposa*	chinchweed	
Asteraceae	*Perityle emoryi*	Emory's rockdaisy	
Asteraceae	*Peucephyllum schottii*	Schott's pygmycedar	
Asteraceae	*Pleurocoronis pluriseta*	bush arrowleaf	
Asteraceae	*Porophyllum gracile*	slender poreleaf	
Asteraceae	*Psilostrophe cooperi*	whitestem paperflower	
Asteraceae	*Rafinesquia neomexicana*	New Mexico plumeseed	
Asteraceae	*Senecio flaccidus* var. *monoensis*	smooth threadleaf ragwort	
Asteraceae	*Stephanomeria exigua*	small wire-lettuce	
Asteraceae	*Stephanomeria pauciflora*	wire-lettuce	
Asteraceae	*Stylocline* sp.	neststraw	
Asteraceae	*Tetradymia stenolepis*	Mojave cottonthorn	
Asteraceae	*Trichoptilium incisum*	yellowdome	
Asteraceae	*Trixis californica* var. *californica*	California trixis	
Asteraceae	*Xylorhiza tortifolia* var. *tortifolia*	Mojave aster	
Bignoniaceae	*Chilopsis linearis* ssp. *arcuata*	desert willow	
Boraginaceae	*Amsinckia tessellata*	bristly fiddleneck	
Boraginaceae	*Cryptantha angustifolia*	narrow-leaved cryptantha	
Boraginaceae	*Cryptantha circumscissa* var. *circumscissa*	cushion cryptantha	
Boraginaceae	*Cryptantha dumetorum*	scrambling cryptantha	
Boraginaceae	*Cryptantha maritima*	Guadalupe cryptantha	
Boraginaceae	*Cryptantha micrantha*	redroot cryptantha	
Boraginaceae	*Cryptantha nevadensis* var. *nevadensis*	Nevada cryptantha	
Boraginaceae	*Cryptantha pterocarya* var. *cycloptera*	Tuscon cryptantha	
Boraginaceae	*Pectocarya heterocarpa*	mixed-nut pectocarya	
Boraginaceae	*Pectocarya platycarpa*	wide-toothed pectocarya	
Boraginaceae	*Pectocarya recurvata*	arched-nut pectocarya	
Boraginaceae	*Pectocarya setosa*	round-nut pectocarya	
Boraginaceae	*Phacelia crenulata*	notch-leaf scorpion-weed	
Boraginaceae	*Phacelia distans*	distant phacelia	
Boraginaceae	*Phacelia fremontii*	Fremont's phacelia	
Boraginaceae	*Phacelia vallis-mortae*	Death Valley phacelia	
Boraginaceae	*Plagiobothrys arizonicus*	Arizona popcornflower	
Boraginaceae	*Tiquilia plicata*	fan-leaved tiquilia	
Brassicaceae	*Brassica tournefortii**	Saharan mustard	
Brassicaceae	*Caulanthus cooperi*	Cooper's wild cabbage	
Brassicaceae	*Caulanthus lasiophyllus*	California mustard	
Brassicaceae	*Descurainia pinnata*	western tansymustard	
Brassicaceae	*Lepidium fremontii*	desert pepperweed	

Family	Scientific Name	Common Name	Status
Brassicaceae	*Lepidium lasiocarpum* ssp. *lasiocarpum*	shaggyfruit pepperweed	
Brassicaceae	*Sisymbrium irio**	London rocket	
Brassicaceae	*Streptanthella longirostris*	longbeak streptanthella	
Brassicaceae	*Thysanocarpus curvipes*	sand fringepod	
Cactaceae	*Coryphantha vivipara* var. *rosea*	viviparous foxtail cactus	2B.2
Cactaceae	*Cylindropuntia acanthocarpa* var. *acanthocarpa*	buckhorn cholla	
Cactaceae	*Cylindropuntia echinocarpa*	silver cholla	
Cactaceae	*Cylindropuntia ramosissima*	pencil cholla	
Cactaceae	*Echinocactus polycephalus* var. *polycephalus*	cottontop cactus	
Cactaceae	*Echinocereus engelmannii*	Engelmann's hedgehog cactus	
Cactaceae	*Echinocereus mojavensis*	Mojave kingcup cactus	
Cactaceae	*Ferocactus cylindraceus*	California barrel cactus	
Cactaceae	*Grusonia parishii*	matted cholla	2B.2
Cactaceae	*Mammillaria tetrancistra*	common fishhook cactus	
Cactaceae	*Opuntia basilaris* var. *basilaris*	beavertail pricklypear	
Cactaceae	*Opuntia chlorotica*	pancake pricklypear	
Cactaceae	*Opuntia curvispina*	curved-spine beavertail	2B.2
Cactaceae	*Opuntia engelmannii* var. *engelmannii*	Engelmann pricklypear	
Cactaceae	*Opuntia phaeacantha*	brown-spined pricklypear	
Cactaceae	*Opuntia polyacantha* var. *erinacea*	Mojave pricklypear	
Caryophyllaceae	*Eremogone macradenia*	Mojave sandwort	
Chenopodiaceae	*Atriplex canescens*	fourwing saltbush	
Chenopodiaceae	*Atriplex confertifolia*	shadscale	
Chenopodiaceae	*Atriplex hymenelytra*	desertholly	
Chenopodiaceae	*Atriplex polycarpa*	allscale saltbush	
Chenopodiaceae	*Grayia spinosa*	spiny hopsage	
Chenopodiaceae	*Krascheninnikovia lanata*	winterfat	
Chenopodiaceae	*Salsola paulsenii**	barbwire Russian thistle	
Chenopodiaceae	*Salsola* sp.*	Russian thistle	
Chenopodiaceae	*Suaeda nigra*	bush seepweed	
Cleomaceae	*Peritoma arborea*	bladderpod	
Convolvulaceae	*Cuscuta* sp.	dodder	
Crassulaceae	*Dudleya saxosa* ssp. *aloides*	Panamint liveforever	
Cucurbitaceae	*Cucurbita palmata*	coyote melon	
Cupressaceae	*Juniperus osteosperma*	Utah juniper	
Ephedraceae	*Ephedra californica*	California jointfir	
Ephedraceae	*Ephedra funerea*	Death Valley jointfir	
Ephedraceae	*Ephedra nevadensis*	Nevada jointfir	
Euphorbiaceae	*Ditaxis neomexicana*	New Mexico ditaxis	
Euphorbiaceae	*Euphorbia abramsiana*	Abrams' spurge	2B.2
Euphorbiaceae	*Euphorbia albomarginata*	rattlesnake sandmat	
Euphorbiaceae	*Euphorbia exstipulata* var. *exstipulata*	Clark Mountain spurge	2B.1
Euphorbiaceae	*Euphorbia micromera*	Sonoran sandmat	
Euphorbiaceae	*Euphorbia parishii*	Parish's sandmat	
Euphorbiaceae	*Euphorbia polycarpa*	smallseed sandmat	

Family	Scientific Name	Common Name	Status
Euphorbiaceae	*Euphorbia revoluta*	revolute spurge	4.3
Euphorbiaceae	*Euphorbia serpillifolia*	thyme-leaved spurge	
Euphorbiaceae	*Euphorbia setiloba*	Yuma sandmat	
Euphorbiaceae	*Stillingia spinulosa*	annual toothleaf	
Fabaceae	*Astragalus bernardinus*	San Bernardino milk-vetch	1B.2
Fabaceae	*Astragalus layneae*	Layne milkvetch	
Fabaceae	*Astragalus lentiginosus* var. *fremontii*	Fremont's milkvetch	
Fabaceae	*Dalea mollissima*	soft prairie clover	
Fabaceae	*Lupinus concinnus*	bajada lupine	
Fabaceae	*Prosopis glandulosa* var. *torreyana*	honey mesquite	
Fabaceae	*Psorothamnus arborescens* var. *simplicifolius*	Mojave indigo-bush	
Fabaceae	*Psorothamnus fremontii* var. *fremontii*	Fremont's indigo-bush	
Fabaceae	*Psorothamnus spinosus*	smoketree	
Fabaceae	*Senegalia greggii*	catclaw acacia	
Fabaceae	*Senna armata*	desert senna	
Geraniaceae	*Erodium cicutarium**	redstem filaree	
Geraniaceae	*Erodium texanum*	Texas filaree	
Krameriaceae	*Krameria bicolor*	white ratany	
Krameriaceae	*Krameria erecta*	littleleaf ratany	
Lamiaceae	*Salvia columbariae*	chia	
Lamiaceae	*Salvia dorrii*	Dorr's sage	
Lamiaceae	*Scutellaria mexicana*	bladdersage	
Loasaceae	*Eucnide urens*	desert stingbush	
Loasaceae	*Mentzelia albicaulis*	whitestem blazingstar	
Loasaceae	*Mentzelia involucrata*	bracted blazingstar	
Loasaceae	*Petalonyx thurberi*	Thurber's sandpaper plant	
Malvaceae	*Eremalche rotundifolia*	desert fivespot	
Malvaceae	*Sphaeralcea ambigua*	desert globemallow	
Malvaceae	*Sphaeralcea rusbyi* var. *eremicola*	Rusby's desert-mallow	1B.2
Molluginaceae	*Mollugo cerviana**	threadstem carpetweed	
Nyctaginaceae	*Allionia incarnata* var. *incarnata*	trailing windmills	
Nyctaginaceae	*Boerhavia coulteri* var. *palmeri*	Coulter's spiderling	
Nyctaginaceae	*Boerhavia triquetra* var. *intermedia*	slender spiderling	
Nyctaginaceae	*Boerhavia wrightii*	largebract spiderling	
Nyctaginaceae	*Mirabilis laevis*	desert wishbone-bush	
Nyctaginaceae	*Mirabilis multiflora*	Colorado four o'clock	
Oleaceae	*Menodora spinescens* var. *spinescens*	spiny menodora	
Onagraceae	*Camissonia campestris* ssp. *campestris*	Mojave suncup	
Onagraceae	*Chylismia brevipes*	yellow cups	
Onagraceae	*Chylismia claviformis*	browneyes	
Onagraceae	*Eremothera boothii*	Booth's evening primrose	
Onagraceae	*Eremothera refracta*	narrow leaved primrose	
Onagraceae	*Oenothera californica* ssp. *avita*	California evening primrose	
Orobanchaceae	*Castilleja chromosa*	desert paintbrush	
Papaveraceae	*Argemone* sp.	pricklypoppy	
Papaveraceae	*Eschscholzia minutiflora*	pygmy poppy	

Family	Scientific Name	Common Name	Status
Plantaginaceae	*Penstemon albomarginatus*	white-margined beardtongue	1B.1
Plantaginaceae	*Plantago ovata*	desert indianwheat	
Poaceae	*Aristida adscensionis*	sixweeks threeawn	
Poaceae	*Aristida californica*	California threeawn	
Poaceae	*Aristida purpurea* var. *longiseta*	red threeawn	
Poaceae	*Bouteloua aristidoides* var. *aristidoides*	needle grama	
Poaceae	*Bouteloua barbata* var. *barbata*	sixweeks grama	
Poaceae	*Bromus rubens**	red brome	
Poaceae	*Bromus tectorum**	cheatgrass	
Poaceae	*Dasyochloa pulchella*	fluff grass	
Poaceae	*Elymus elymoides*	squirreltail	
Poaceae	*Enneapogon desvauxii*	nine-awn pappusgrass	2B.2
Poaceae	*Eragrostis cilianensis**	stinkgrass	
Poaceae	*Eragrostis lehmanniana**	Lehmann's love grass	
Poaceae	*Hilaria rigida*	big galleta	
Poaceae	*Hordeum* sp.	barley	
Poaceae	*Muhlenbergia porteri*	bush muhly	
Poaceae	*Panicum urvilleanum*	silky panic grass	
Poaceae	*Poa secunda*	Nevada blue grass	
Poaceae	*Schismus* spp.*	Mediterranean grass	
Poaceae	*Sporobolus contractus*	spike dropseed	
Poaceae	*Sporobolus cryptandrus*	sand dropseed	
Poaceae	*Sporobolus flexuosus*	mesa dropseed	
Poaceae	*Stipa hymenoides*	sand rice grass	
Poaceae	*Stipa speciosa*	desert needlegrass	
Polemoniaceae	*Eriastrum harwoodii*	Harwood's eriastrum	1B.2
Polemoniaceae	*Eriastrum* sp.	woollystar	
Polemoniaceae	*Gilia* sp.	gilia	
Polemoniaceae	*Linanthus dichotomus*	evening snow	
Polemoniaceae	*Linanthus filiformis*	yellow gilia	
Polygonaceae	*Centrostegia thurberi*	red triangles	
Polygonaceae	*Chorizanthe brevicornu*	brittle spineflower	
Polygonaceae	*Chorizanthe rigida*	Devil's spineflower	
Polygonaceae	*Eriogonum brachypodum*	Parry's wild buckwheat	
Polygonaceae	*Eriogonum deflexum*	skeleton weed	
Polygonaceae	*Eriogonum fasciculatum* var. *polifolium*	Eastern Mojave buckwheat	
Polygonaceae	*Eriogonum inflatum*	desert trumpet	
Polygonaceae	*Eriogonum nidularium*	birdnest wild buckwheat	
Polygonaceae	*Eriogonum palmerianum*	Palmer's wild buckwheat	
Polygonaceae	*Eriogonum plumatella*	Yucca wild buckwheat	
Polygonaceae	*Eriogonum pusillum*	yellow turbans	
Polygonaceae	*Eriogonum trichopes*	little desert trumpet	
Polygonaceae	*Eriogonum wrightii*	bastard-sage	
Polygonaceae	*Oxytheca perfoliata*	roundleaf puncturebract	
Polygonaceae	*Rumex hymenosepalus*	canaigre dock	
Portulacaceae	*Portulaca halimoides*	desert purselane	4.2

Family	Scientific Name	Common Name	Status
Portulacaceae	*Portulaca oleracea**	purslane	
Pteridaceae	*Myriopteris parryi*	Parry's lipfern	
Ranunculaceae	*Delphinium parishii*	desert larkspur	
Resedaceae	*Oligomeris linifolia*	lineleaf whitepuff	
Rosaceae	*Coleogyne ramosissima*	blackbrush	
Rosaceae	*Prunus fasciculata*	desert almond	
Rosaceae	*Purshia stansburyana*	cliffrose	
Rubiaceae	*Galium stellatum*	starry bedstraw	
Rutaceae	*Thamnosma montana*	turpentine broom	
Simaroubaceae	*Castela emoryi*	crucifixion thorn	2B.2
Solanaceae	*Datura wrightii*	jimsonweed	
Solanaceae	*Lycium andersonii*	Anderson's box thorn	
Solanaceae	*Lycium cooperi*	Cooper's box thorn	
Solanaceae	*Nicotiana obtusifolia*	desert tobacco	
Solanaceae	*Physalis crassifolia*	thick-leaved groundcherry	
Tamaricaceae	*Tamarix aphylla**	athel	
Tamaricaceae	*Tamarix ramosissima**	saltcedar	
Viscaceae	*Phoradendron californicum*	desert mistletoe	
Zygophyllaceae	*Kallstroemia californica*	California caltrop	
Zygophyllaceae	*Kallstroemia parviflora*	warty caltrop	4.2
Zygophyllaceae	*Larrea tridentata*	creosote bush	
Zygophyllaceae	*Tribulus terrestris**	puncturevine	

* Non-native species

Notes:

CNPS Rare Plant Ranks (CRPR):

1A = Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B = Plants Rare, Threatened, or Endangered in California and Elsewhere
2A = Plants Presumed Extirpated in California, but More Common Elsewhere
2B = Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere
3 = Plants about Which More Information is Needed
4 = Plants of Limited Distribution

CNPS Threat Ranks:

0.1 = Seriously threatened in California (over 80 percent of occurrences threatened; high degree and immediacy of threat)
0.2 = Moderately threatened in California (20 to 80 percent of occurrences threatened; moderate degree and immediacy of threat)
0.3 = Not very threatened in California (less than 20 percent of occurrences threatened; low degree and immediacy of threat or no current threats known)

Appendix D-8

Focused Survey for Desert Tortoise Report

Environmental Intelligence, LLC

DRAFT
FOCUSED SURVEY FOR DESERT TORTOISE

LUGO-VICTORVILLE 500-KV TRANSMISSION LINE REMEDIAL ACTION SCHEME PROJECT

SAN BERNARDINO COUNTY, CALIFORNIA

Southern California Edison
IO # 333300 & 333301

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Date: November 2016

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APPENDICES

EXECUTIVE SUMMARY

Environmental Intelligence, LLC (EI) was retained by Southern California Edison (SCE) to conduct a focused survey for desert tortoise (*Gopherus agassizii*) in support of the proposed Lugo-Victorville 500-kV Transmission Line Remedial Action Scheme Project (Project) located in San Bernardino County, California. The results of these focused surveys will (1) support the Mojave National Preserve's (MNP) review of SCE's Special Use Permit application; (2) support the Bureau of Land Management's (BLM) review of SCE's Right-of-Way (ROW) application; and (3) assist in SCE's consultation with the United States Fish and Wildlife Service (USFWS).

Desert tortoise population densities in the region have been declining since at least 1980. The Mojave National Preserve (MNP) includes the Goffs Permanent Study Plot (a square mile plot in southeastern MNP), established in 1977 and sampled for tortoises through 2000 (Berry 2000). Population density estimates across all size classes (tortoises per square mile, with 95 percent confidence intervals) declined from 440 (370-522) in 1980 to 88 (34-230) in 2000; sub-adult and adult size class declined from 195 (162-234) in 1980 to 18 (6-54) in 2000. The 2011 Recovery Plan estimated 2007 adult/sub-adult densities (per square mile) at 12.2 in the Western Mojave Recovery Unit, 12.9 in the Eastern Mojave Recovery Unit, and 11.9 in the Northern Colorado Recovery Unit. Surveys for the Ivanpah Solar Electric Generating System Project in 2011 estimated densities at 18.0 adult/sub-adult tortoises per square mile (Sundance Biology 2011). The USFWS range-wide monitoring efforts determined 2014 densities (per square mile) of adult/sub-adult tortoises were 6.2 and 9.3 within the Superior-Cronese Critical Habitat Unit and Ord-Rodman Critical Habitat Unit, respectively, of the Western Mojave Recovery Unit, 6.0 within the Ivanpah Critical Habitat Unit of the Eastern Mojave Recovery Unit, and 12.4 and 7.3 within the Fenner Critical Habitat Unit and Chemehuevi Critical Habitat Unit, respectively, of the Colorado Desert Recovery Unit (USFWS 2015).

A total of thirteen (13) live desert tortoises were observed within Survey Areas; an additional two (2) sub-adults were incidentally observed on an access road outside of the Survey Area and are not included in population calculations. The thirteen (13) live tortoises observed within Survey Areas included ten (10) adult/sub-adult tortoises with a maximum carapace length (MCL) greater than 160mm and one (1) juvenile tortoise with a MCL less than or equal to 160mm; two (2) tortoises were deep in burrows and unable to be measured (assumed to be adult/sub-adult for population calculations). Eleven (11) of the thirteen (13) live tortoises observed were associated with a burrow (in burrow or at entrance); two (2) tortoises were observed in the open, one of which was an adult with an identification tag (#N92043).

Other desert tortoise sign observed included two hundred fifteen (215) tortoise burrows and an additional twenty-eight (28) burrows with tortoise tracks, one hundred eighty-five (185) pallets and an additional seven (7) pallets with tortoise tracks, one hundred forty (140) tortoise scat, thirty-five (35) tortoise carcasses, and five (5) locations with tortoise eggshell fragments.

The live desert tortoises and numerous sign observed along the Project alignment are a strong indication that this area provides high quality desert tortoise habitat. Of the tortoises encountered where surveyors could clearly see the animal's eyes, nares, and carapace, one (1) tortoise exhibited indications of possible respiratory infection (*i.e.*, wet nares and swollen/inflamed eyes).

In the Western Mojave Recovery Unit, four (4) adult/sub-adult desert tortoises were observed during transects within the Survey Area. The estimated number of adult/sub-adult tortoises (with 95 percent confidence interval) within the Action Area contained within the Western Mojave Recovery Unit is 8.9 (2.7 – 28.8) tortoises. The population density is approximately 20.6 adult/sub-adult tortoises per square mile. The estimated density of 20.6 adult/sub-adult desert tortoises per square mile is higher than the 2014 USFWS estimates of 6.2-9.3 tortoises per square mile for the Superior-Cronese and Ord-Rodman Critical Habitat Units.

In the Eastern Mojave Recovery Unit, eight (8) adult/sub-adult desert tortoises were observed during transects within the Survey Area. The estimated number of adult/sub-adult tortoises (with 95 percent confidence interval) within the Action Area contained within the Eastern Mojave Recovery Unit is 14.5

(6.1 – 34.6) tortoises. The population density is approximately 17.5 adult/sub-adult tortoises per square mile. The estimated density of 17.5 adult/sub-adult desert tortoises per square mile is higher than the 2014 USFWS estimates of 6.0-12.4 tortoises per square mile for the Ivanpah, Fenner, and Chemehuevi Critical Habitat Units, but similar to Ivanpah Solar's estimate of 18.0 tortoises per square mile.

Discrepancies in densities from various studies could be a result of habitat quality, variation between regional populations, survey time of year, and/or yearly weather fluctuations.

1.0 INTRODUCTION

Environmental Intelligence, LLC (EI) was retained by Southern California Edison (SCE) to conduct a focused survey for desert tortoise (*Gopherus agassizii*) in support of the proposed Lugo-Victorville 500-kV Transmission Line Remedial Action Scheme Project (Project) located in San Bernardino County, California. The results of these focused surveys will (1) support the Mojave National Preserve's (MNP) review of SCE's Special Use Permit application; (2) support the Bureau of Land Management's (BLM) review of SCE's Right-of-Way (ROW) application; and (3) assist in SCE's consultation with the United States Fish and Wildlife Service (USFWS).

2.0 PROJECT LOCATION AND DESCRIPTION

The Project is located entirely within San Bernardino County, California, extending from Pisgah Substation (near Ludlow, CA) to the California-Nevada border (near Nipton Road) (Exhibit 1). The Project alignment passes through the following United States Geological Survey (USGS) 7.5-minute quadrangles: Hector, Sleeping Beauty, Broadwell Lake, West of Broadwell Mesa, Broadwell Mesa, Soda Lake South, Cowhole Mountain, Old Dad Mountain, Indian Spring, Marl Mountains, Cima, Cima Dome, Joshua, Ivanpah, Nipton, and Crescent Peak; material/laydown yards are located in Dunn and Baker USGS quadrangles. Land use along the Project alignment is primarily undisturbed desert scrub habitat. The Project alignment crosses lands owned by the BLM, private landowners, the State, and the National Park Service.

SCE proposes to install a new 84-mile telecommunication path consisting of Optical Ground Wire (OPGW) fiber optic cable. The Project is required to reliably interconnect and integrate multiple renewable generation projects in the Southern Nevada / Eastern California area onto the electric grid. The primary function of this Project will be to prevent thermal overloading on the jointly owned Lugo-Victorville 500-kV Transmission Line, a major power transfer path between SCE and the Los Angeles Department of Water and Power (LADWP). All work will occur within the existing SCE ROW and will include bucket truck work on disturbed areas at approximately 408 transmission tower locations, installation of guard poles at 14 locations, establishment of helicopter landing zones at 72 locations, pulling/tensioning activities at 27 locations, and establishment of several laydown yards.

3.0 DESERT TORTOISE BACKGROUND

The desert tortoise is a long-lived, terrestrial land turtle with a domed carapace (upper shell), which is oblong with rounded sides due to the joining of the carapace to the plastron (lower shell). The front limbs are flattened and heavily scaled for digging, and the hind limbs are rounded and stumpy. The front and hind feet are about equal in size and the tail is of short length. The scutes are often yellowish in the middle and have grooved, parallel, concentric growth rings that form outward with age toward the scute margins. The plastron is typically yellowish, becoming brown around the scute margins. The head is relatively small and rounded in front with reddish-tan coloring, and the iris is greenish-yellow.

The desert tortoise occupies a variety of desert habitats from sea level to over 7,000 feet, most commonly on gently sloping terrain with sandy-gravel soils and herbaceous plants. Desert tortoises feed on a variety of herbaceous annual forbs and grasses. They retreat into their horizontal burrow to avoid surface temperature extremes and to escape from predators. Desert tortoises are known to utilize an average of 7 to 12 burrows at any given time. Multiple tortoises are also known to occasionally share a single burrow (BLM 2006).

The Mojave population of the desert tortoise was listed as threatened by the California Department of Fish and Wildlife (CDFW) on August 3, 1989 and USFWS on April 2, 1990 (USFWS 1990). A desert tortoise recovery plan was prepared in 1994 (USFWS 1994a), which proposed the establishment of recovery units and Desert Wildlife Management Areas (DWMAs) to provide recovery strategies and actions for the long-term persistence of viable desert tortoise populations and the ecosystems upon which they depend. Critical habitat was also designated in 1994 (USFWS 1994b). The recovery plan was revised in 2011 (USFWS 2011), which updated the recovery unit boundaries. Reasons for its protection include loss and degradation of habitat by development, off-road vehicles, military training maneuvers, mining,

illegal dumping, livestock grazing and invasion of exotic grasses and forbs, predation by an increasing common raven (*Corvus corax*) population, illegal collecting (poaching) and intentional killing and harassment by an increasing human population, and a serious and fatal upper respiratory disease. These factors, coupled with delayed sexual maturity (13 to 20 years of age), low reproductive rates, and high mortality early in life, make recovery of the species difficult.

4.0 METHODS

4.1 Database Search and Literature Review

Prior to the initiation of field work, a review of pertinent literature was performed to verify known and reported desert tortoise occurrences in the vicinity of the Project and the location of the site relative to designated desert tortoise critical habitat and other conservation lands. This included a review of the California Natural Diversity Database (CNDDB) RareFind application (CDFW 2016), the 1994 and 2011 Desert Tortoise Recovery Plans (USFWS 1994a & 2011), Biological Assessment for the 2004 Fire Management Plan for the Mojave National Preserve (Dingman 2004), and other pertinent desert tortoise documents.

4.2 Desert Tortoise Focused Surveys

Desert tortoise focused surveys were conducted on October 10-15, 17-22 & 24-26 by EI qualified biologists Jim Buffington, Ben DeLancey, Scott Duff, Paul Flores, Mikaila Negrete, and Susan Seville. The survey was conducted in accordance with the *2010 Field Season Survey Protocol* (USFWS 2010). Ten-meter belt transects were surveyed over 100 percent of the proposed disturbance areas as well as a 200-foot buffer (Survey Area). This Survey Area acts as the Project's Action Area, defined as the areas to be affected directly or indirectly and not merely the immediate area involved in the Project's disturbance area. Access roads and other areas between the Survey Areas were not included in the Project's Action Area.

Handheld Global Positioning System (GPS) units, digital cameras, binoculars and field forms/notes were used to aid in recording tortoise sign and other biological resources. A handheld weather meter was used to record temperatures at the start and end of each transect. Daily focused surveys were ceased if temperatures in the shade at 5cm above the ground reached 40° Celsius (C) (104° Fahrenheit [F]). All desert tortoise sign, as well as required survey and weather data was recorded on USFWS 2010 Desert Tortoise Pre-Project Survey Data Sheets (Appendix B). General health of live desert tortoises encountered was assessed when the head and carapace were visible to surveyors without stressing the animal. Binoculars were usually used to inspect the eyes, nares, and shell conditions of the tortoises for clinical signs of disease without handling or approaching the animals too closely. Desert tortoises encountered were not touched or handled at any time during the survey, and biological samples were not taken to assist in the assessments of health of the encountered tortoises. All flora and fauna observed were recorded on the field forms or in personal field notes.

4.3 Desert Tortoise Population Size and Density Estimates

The 2010 Field Season Survey Protocol provides an equation that accounts for the likelihood that not all tortoises on a particular site are above ground at the time of the performance of focused surveys. It also takes in account that desert tortoises are cryptic and thus may be overlooked. Other factors included in this equation include the amount of rainfall that was received in the area during the previous winter season. The equation to estimate the number of adult/sub-adult tortoises is as follows:

$$\text{Estimated number of tortoises within Action Area } (N) = \frac{\text{Number of tortoises observed above ground}}{\left(\text{Probability that a tortoise is above ground } [Pa]\right)\left(\text{Probability of detecting a tortoise if above ground } [Pd]\right)}\left(\frac{\text{Size of the action area}}{\text{Size of the area surveyed}}\right)$$

The probability that a tortoise is above ground (Pa) is determined by the amount of rainfall that was recorded in the area during the preceding fall/winter months (October through March). If less than 40mm (~1.57 inches) of rainfall was recorded during the preceding winter months, the Pa is assigned a value of 0.64 with a variance of 0.08. If greater than 40mm (~1.57 inches) of rainfall was recorded during the preceding winter months, the Pa is assigned a value of 0.80 with a variance of 0.05. The probability of detecting a tortoise if above ground (Pd) is 0.63 with a variance of 0.011 (USFWS established that trained surveyors detect an average of 63 percent of model tortoises within 5 meters of either side of the transect center-line). Appendix 1 of the 2010 Field Season Protocol (USFWS 2010) provides a detailed description of the formulas used to calculate abundance and confidence interval estimation.

5.0 RESULTS

5.1 Database Search and Literature Review

Desert tortoise conservation areas include desert tortoise habitat within critical habitat, DWMAs, Areas of Critical Environmental Concern (ACEC), Grand Canyon-Parashant National Monument, Desert National Wildlife Refuge, National Park Service lands, Red Cliffs Desert Reserve, and other conservation areas or easements managed for desert tortoises (USFWS 2011). The Project is located within the Western Mojave and Eastern Mojave Recovery Units as described in the Revised Desert Tortoise Recovery Plan (USFWS 2011), and it passes through the Ivanpah Valley Critical Habitat Unit (Exhibit 2). The Colorado Desert Recovery Unit is located southeast of the Project. CNDDB records have been reported throughout the region (Exhibit 2).

In the Western Mojave Recovery Unit, most rainfall occurs in fall and winter and produces winter annuals, which are the primary food source of tortoises. Above-ground activity occurs primarily (but not exclusively) in spring, associated with winter annual production. Thus, tortoises are adapted to a regime of winter rains and rare summer storms. Here, desert tortoises occur primarily in valleys, on alluvial fans, bajadas, and rolling hills. Desert tortoises in the Eastern Mojave Recovery Unit are generally found in creosote bush scrub communities of flats, valley bottoms, alluvial fans, and bajadas, but they occasionally use other habitats such as rocky slopes and blackbrush scrub. Desert tortoises are often active in this recovery unit in late summer and early fall, in addition to spring, reflecting the fact that this region receives up to about 40 percent of its annual rainfall in summer and supports two distinct annual floras on which tortoises can feed. They typically eat summer and winter annuals, cacti, perennial grasses, and herbaceous perennials. In the Colorado Desert Recovery Unit, desert tortoises are found in the valleys, on bajadas, desert pavements, rocky slopes, and in the broad, well-developed washes (especially to the south). Vegetation is characterized by relatively species-rich succulent scrub, creosote bush scrub, and blue paloverde-ironwood-smoke tree communities. Tortoises feed on both summer and winter annuals, because this region receives about one-third of its annual rainfall in summer and supports two distinct annual floras on which they can feed. The climate is somewhat warmer than in other recovery units, with very few freezing days per year.

Desert tortoise population densities in the region have been declining since at least 1980. The Mojave National Preserve (MNP) includes the Goffs Permanent Study Plot (a square mile plot in southeastern MNP), established in 1977 and sampled for tortoises in 1977, 1980, 1983-86, 1990, 1994, and 2000 (Berry 2000). Population density estimates across all size classes (tortoises per square mile, with 95 percent confidence intervals) declined from 440 (370-522) in 1980 to 88 (34-230) in 2000; sub-adult and adult size class declined from 195 (162-234) in 1980 to 18 (6-54) in 2000. The 2011 Recovery Plan estimated 2007 adult/sub-adult densities (per square mile) at 12.2 in the Western Mojave Recovery Unit, 12.9 in the Eastern Mojave Recovery Unit, and 11.9 in the Northern Colorado Recovery Unit. Surveys in 2011 for the Ivanpah Solar Electric Generating System Project, approximately 13 miles northwest of the Project, estimated densities at 18.0 adult/sub-adult tortoises per square mile (Sundance Biology 2011). The USFWS range-wide monitoring efforts determined 2014 densities (per square mile) of adult/sub-adult tortoises were 6.2 and 9.3 within the Superior-Cronese Critical Habitat Unit and Ord-Rodman Critical Habitat Unit, respectively, of the Western Mojave Recovery Unit, 6.0 within the Ivanpah Critical Habitat Unit of the Eastern Mojave Recovery Unit, and 12.4 and 7.3 within the Fenner Critical Habitat

Unit and Chemehuevi Critical Habitat Unit, respectively, of the Colorado Desert Recovery Unit (USFWS 2015).

5.2 Weather

Temperatures ranged from a low of 14˚C (57˚F) to a high of 37˚C (99˚F) during the surveys. Skies were primarily clear to partly cloudy, with one day of overcast skies (October 24). Winds ranged from calm to breezy, estimated to be between 0 and 10 miles per hour (mph). Rainfall (approximately 0.4 inch) was recorded on-site on October 24.

Precipitation recorded at the Twentynine Palms Expeditionary Air Field station (southwest end of alignment) and the Laughlin-Bullhead International station (northeast end of alignment), the nearest weather stations relative to the Project, from October 1, 2015 to March 31, 2016 (the preceding fall/winter months) was 1.14 and 2.09 inches, respectively; from April 1 to September 30, 2016 (the preceding spring/summer months), precipitation was 0.56 and 2.12 inches, respectively.

5.3 Topography

The Project traverses the Mojave Desert through the Western Mojave and Eastern Mojave Recovery Units, with elevations along the alignment ranging from 1,100 to 4,600 feet. Topography consists of valleys, flats, alluvial fans, bajadas, rolling hills, and rocky slopes.

5.4 Vegetation Communities / Land Cover Types and Flora

Twenty-one vegetation communities, including eight sensitive vegetation communities and thirteen non-sensitive vegetation communities, were identified and mapped during separate habitat and resource assessment surveys (Exhibit 3). A list of the vegetation communities and their California Natural Community Codes are presented in Table 1. Descriptions of the communities can be found in the Manual of California Vegetation, 2nd Edition (Sawyer et al. 2009). Two land cover types were identified and mapped; they are described below. Site photographs are presented in Appendix C.

TABLE 1. VEGETATION COMMUNITY / LAND COVER TYPE AND LOCATION

Vegetation Community / Land Cover Type
Sensitive Vegetation Communities
Chilopsis linearis (Desert willow woodland) Alliance 61.550.00
Ericameria paniculata (Black-stem rabbitbrush scrub) Alliance 35.340.00
Panicum urvilleanum (Desert panic grass patches) Alliance 42.095.00
Pleuraphis rigida (Big galleta shrub-steppe) Alliance 41.0303.00
Prunus fasciculata (Desert almond scrub) Alliance 33.300.00
Psorothamnus spinosus (Smoke tree woodland) Alliance 61.570.00
Rhus trilobata (Basket bush thickets) Provisional Alliance 37.802.00
Yucca brevifolia (Joshua tree woodland) Alliance 33.170.00
Non-Sensitive Vegetation Communities
Acacia greggii (Catclaw acacia thorn scrub) Alliance 33.040.00
Ambrosia dumosa (White bursage scrub) Alliance 33.060.00
Ambrosia salsola (Cheesebush scrub) Alliance 33.200.00
Atriplex hymenelytra (Desert holly scrub) Alliance 36.330.00
Atriplex polycarpa (Allscale scrub) Alliance 36.340.00
Bromus (*diandrus, hordeaceus*) - *Brachypodium distachyon* (Annual brome grasslands) Semi-natural Stands 42.026.00
Bromus rubens - *Schismus* (*arabicus, barbatus*) (Red brome or Mediterranean grass grasslands) Semi-natural Stands 42.024.00
Encelia farinosa (Brittle bush scrub) Alliance 33.030.00
Ephedra nevadensis (Nevada joint fir scrub) Alliance 33.280.00
Larrea tridentata (Creosote bush scrub) Alliance 33.010.00
Larrea tridentata - *Ambrosia dumosa* (Creosote bush - white burr sage scrub) Alliance 33.140.00

TABLE 1. VEGETATION COMMUNITY / LAND COVER TYPE AND LOCATION

Vegetation Community / Land Cover Type
Salazaria mexicana (Bladder sage scrub) Alliance 33.310.00
Yucca schidigera (Mojave yucca scrub) Alliance 33.070.00
Land Cover Types
Barren-Not Developed
Developed

Barren-Not Developed

Barren-not developed lands include cleared areas devoid of vegetation (e.g., ROW/easement, private property, roadside margin).

Developed

Developed lands include urban or built-up areas with much of the land covered by structures. Such areas include cities, transportation, power and communications facilities, mills, shopping centers, and other buildings that may, in some cases, be separate from urban areas. Urban or built-up land may contain a wide variety of native and non-native, ruderal, and ornamental plant species.

5.5 Vertebrate Fauna

Thirty-three (33) vertebrates, including the desert tortoise, were either directly observed or detected through presence of sign during surveys. These included four (4) reptiles, twenty-one (21) birds, and eight (8) mammals. Some of these are resident, common species in the Mojave Desert, while others (i.e., birds) are seasonal migrants passing through the area. Representative common wildlife species detected included, but were not limited to, southern desert horned lizard (*Phrynosoma platyrhinos calidiarum*), greater roadrunner (*Geococcyx californianus*), common raven (*Corvus corax*), rock wren (*Salpinctes obsoletus*), Bell's sparrow (*Artemisiospiza belli*), desert woodrat (*Neotoma lepida*), and coyote (*Canis latrans*). The full list of vertebrate species observed during surveys is included in Appendix D.

5.6 Desert Tortoise

5.6.1 DESERT TORTOISE SIGN

A total of thirteen (13) live desert tortoises were observed within Survey Areas (Table 2; Exhibit 3); an additional two (2) sub-adults were incidentally observed on an access road outside of the Survey Area and are not included in population calculations. The thirteen (13) live tortoises observed within Survey Areas included ten (10) adult/sub-adult tortoises with a maximum carapace length (MCL) greater than 160mm and one (1) juvenile tortoise with a MCL less than or equal to 160mm; two (2) tortoises were deep in burrows and unable to be measured (assumed to be adult/sub-adult for population calculations). Eleven (11) of the thirteen (13) live tortoises observed were associated with a burrow (in burrow or at entrance); two (2) tortoises were observed in the open, one of which was an adult with an identification tag (#N92043).

Other desert tortoise sign observed included two hundred fifteen (215) tortoise burrows and an additional twenty-eight (28) burrows with tortoise tracks, one hundred eighty-five (185) pallets and an additional seven (7) pallets with tortoise tracks, one hundred forty (140) tortoise scat, thirty-five (35) tortoise carcasses, and five (5) locations with tortoise eggshell fragments (Table 2; Exhibit 3).

TABLE 2. DESERT TORTOISE SIGN OBSERVED

Sign Type	Class[1]						
	1	2	3	4	5	Unclassified	Totals
Live Desert Tortoises	8	2	1	0	0	2	13
Burrows	11	53	97	53	1	0	215
Burrows with Tracks	5	21	2	0	0	0	28
Pallets	185						185
Pallets with Tracks	7						7
Scat	0	2	0	2	6	130	140
Tracks not associated with burrow	0						0
Carcasses/Shell Remains	0	0	0	0	22	13	35
Drinking Depressions with Tracks	0						0
Locations with Eggshell Fragments	5						5

[1]Desert Tortoise Sign Classification:

Live Desert Tortoises (Maximum Carapace Length)
Class 1 – Adult (≥215mm)
Class 2 – Sub-Adult (161-214mm)
Class 3 – Juvenile (101-160mm)
Class 4 – Very Young (61-100mm)
Class 5 – Hatchling (≤60mm)
Unclassified – Completely in burrow, unable to measure

Burrows
Class 1 – Currently active with tortoise or recent sign
Class 2 – Good condition (definitely tortoise), but no evidence of recent use
Class 3 – Deteriorated condition (definitely tortoise)
Class 4 – Deteriorated condition (possibly tortoise)
Class 5 – Good condition (possibly tortoise)

Scat
Class 1 – Wet or moist (not from rain or dew) or dried with obvious odor
Class 2 – Dry, dark brown, has a glaze and some odor
Class 3 – Dry, light brown, slightly bleached, no glaze or odor, plant fibers tightly packed
Class 4 – Dry, light brown to pale yellow, somewhat bleached, no glaze or odor, plant fibers not tightly packed, scaly appearance
Class 5 – Dry, white/bleached, no glaze or odor, consists only of plant fibers
Unclassified – Class not recorded (advised by client)

Carcasses/Shell Remains
Class 1 – Fresh or putrid
Class 2 – Not fresh or putrid, is of normal color, and scutes adhere to bone
Class 3 – Scutes peeling from the bone
Class 4 – Shell bone is falling apart and growth rings on scutes are peeling
Class 5 – Disarticulated and scattered
Unclassified – Class not recorded

5.6.2 ESTIMATED DESERT TORTOISE POPULATION SIZE AND DENSITY

Using the calculations provided in the 2010 Field Season Protocol (USFWS 2010), desert tortoise abundance and confidence interval as well as densities were estimated. The Action Area was split into two sections based on the Recovery Unit boundaries.

In the Western Mojave Recovery Unit, four (4) adult/sub-adult desert tortoises were observed during transects within the Survey Area (Exhibit 3). Precipitation for the previous winter months (and summer months) was less than 40mm (~1.57 inches), so the Pa was assigned a value of 0.64 with a variance of 0.08. The estimated number of adult/sub-adult tortoises (with 95 percent confidence interval) within the Action Area contained within the Western Mojave Recovery Unit is 8.9 (2.7 – 28.8) tortoises. The population density is approximately 20.6 adult/sub-adult tortoises per square mile.

In the Eastern Mojave Recovery Unit, eight (8) adult/sub-adult desert tortoises were observed during transects within the Survey Area, all within the Ivanpah Critical Habitat Unit (Exhibit 3). Precipitation for the previous winter months (and summer months) was greater than 40mm (~1.57 inches), so the Pa was assigned a value of 0.80 with a variance of 0.05. The estimated number of adult/sub-adult tortoises (with

95 percent confidence interval) within the Action Area contained within the Eastern Mojave Recovery Unit is 14.5 (6.1 – 34.6) tortoises. The population density is approximately 17.5 adult/sub-adult tortoises per square mile.

6.0 DISCUSSION

The thirteen (13) live desert tortoises, four hundred (400) burrows (including pallets), one hundred forty (140) tortoise scat, thirty-five (35) locations with tortoise tracks (including those observed at burrows and pallets), thirty-five (35) tortoise carcasses, and five (5) locations with tortoise eggshell fragments observed along the Project alignment are a strong indication that this area provides high quality desert tortoise habitat. Of the tortoises encountered where surveyors could clearly see the animal's eyes, nares, and carapace, one (1) tortoise exhibited indications of possible respiratory infection (*i.e.*, wet nares and swollen/inflamed eyes).

In the Western Mojave Recovery Unit, the estimated density of 20.6 adult/sub-adult desert tortoises per square mile is higher than the 2014 USFWS estimates of 6.2-9.3 tortoises per square mile for the Superior-Cronese and Ord-Rodman Critical Habitat Units. In the Eastern Mojave Recovery Unit, the estimated density of 17.5 adult/sub-adult desert tortoises per square mile is higher than the 2014 USFWS estimates of 6.0-12.4 tortoises per square mile for the Ivanpah, Fenner, and Chemehuevi Critical Habitat Units, but similar to Ivanpah Solar's estimate of 18.0 tortoises per square mile. Discrepancies in densities from various studies could be a result of habitat quality, variation between regional populations, survey time of year, and/or yearly weather fluctuations.

7.0 REFERENCES

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Appendix A:

EXHIBITS

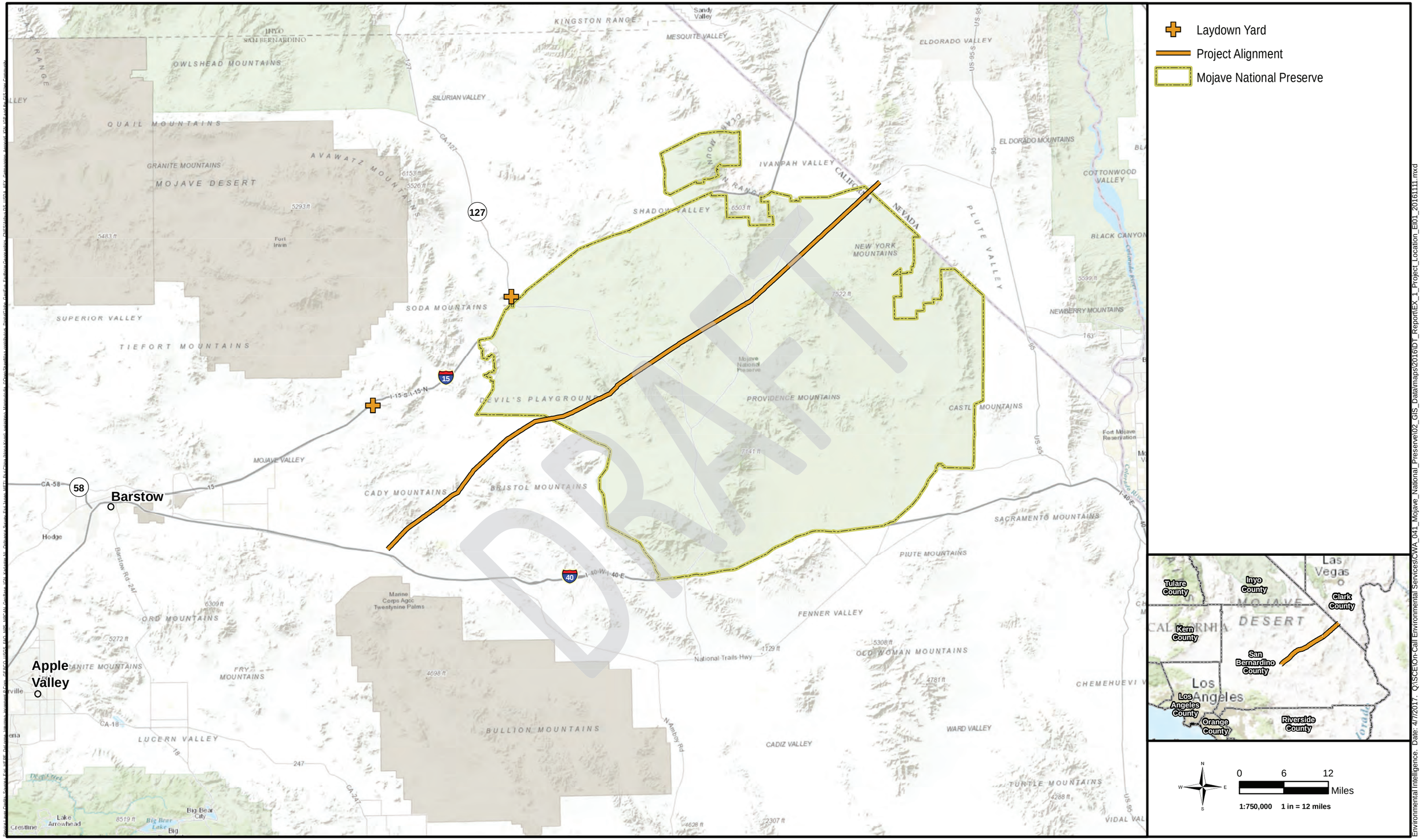

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Exhibit 1. Project Location

LVRAS Project | San Bernardino County, CA and Clark County, NV

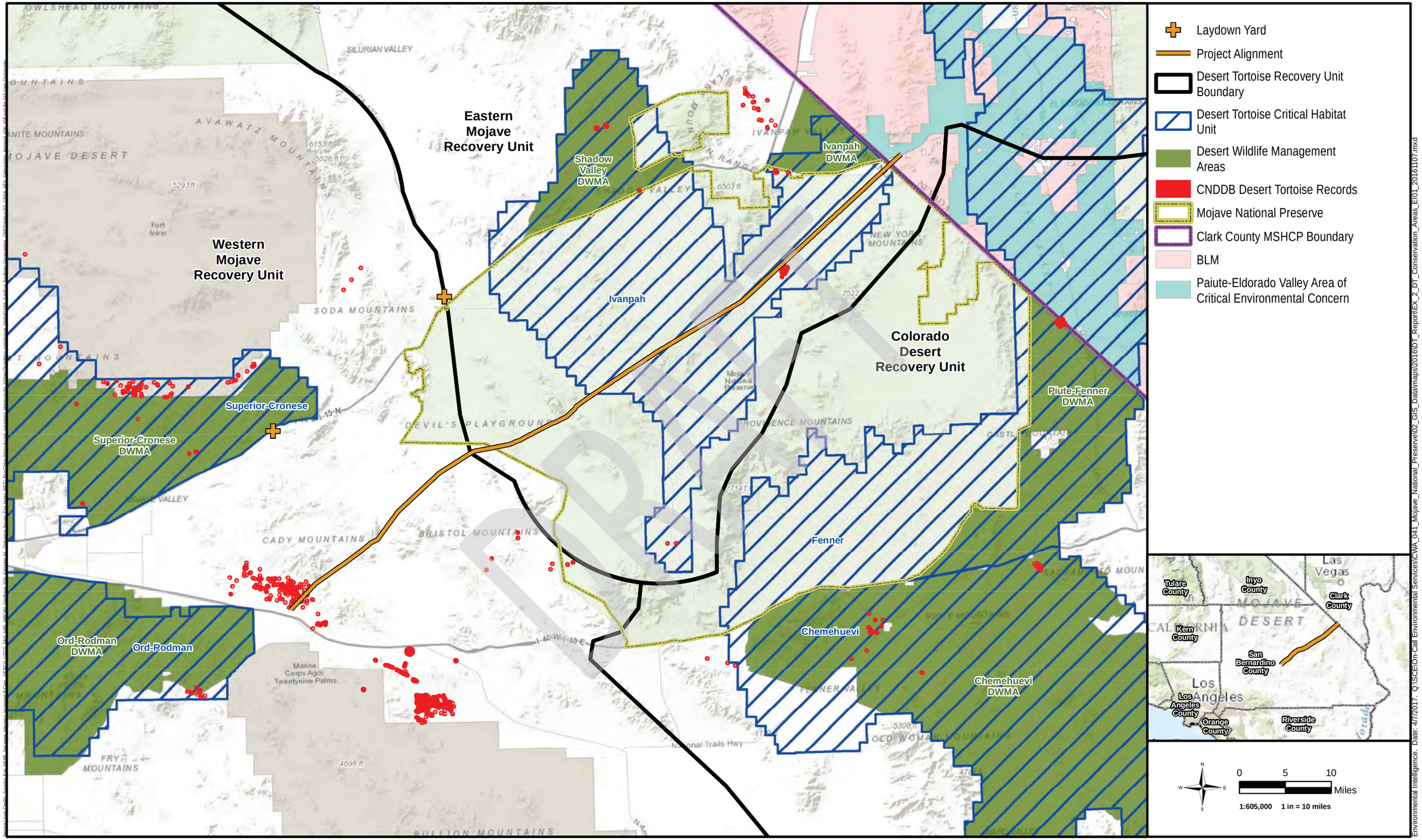

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Exhibit 2. Desert Tortoise Conservation Areas and CNDDB Records
LVRAS Project | San Bernardino County, CA and Clark County, NV

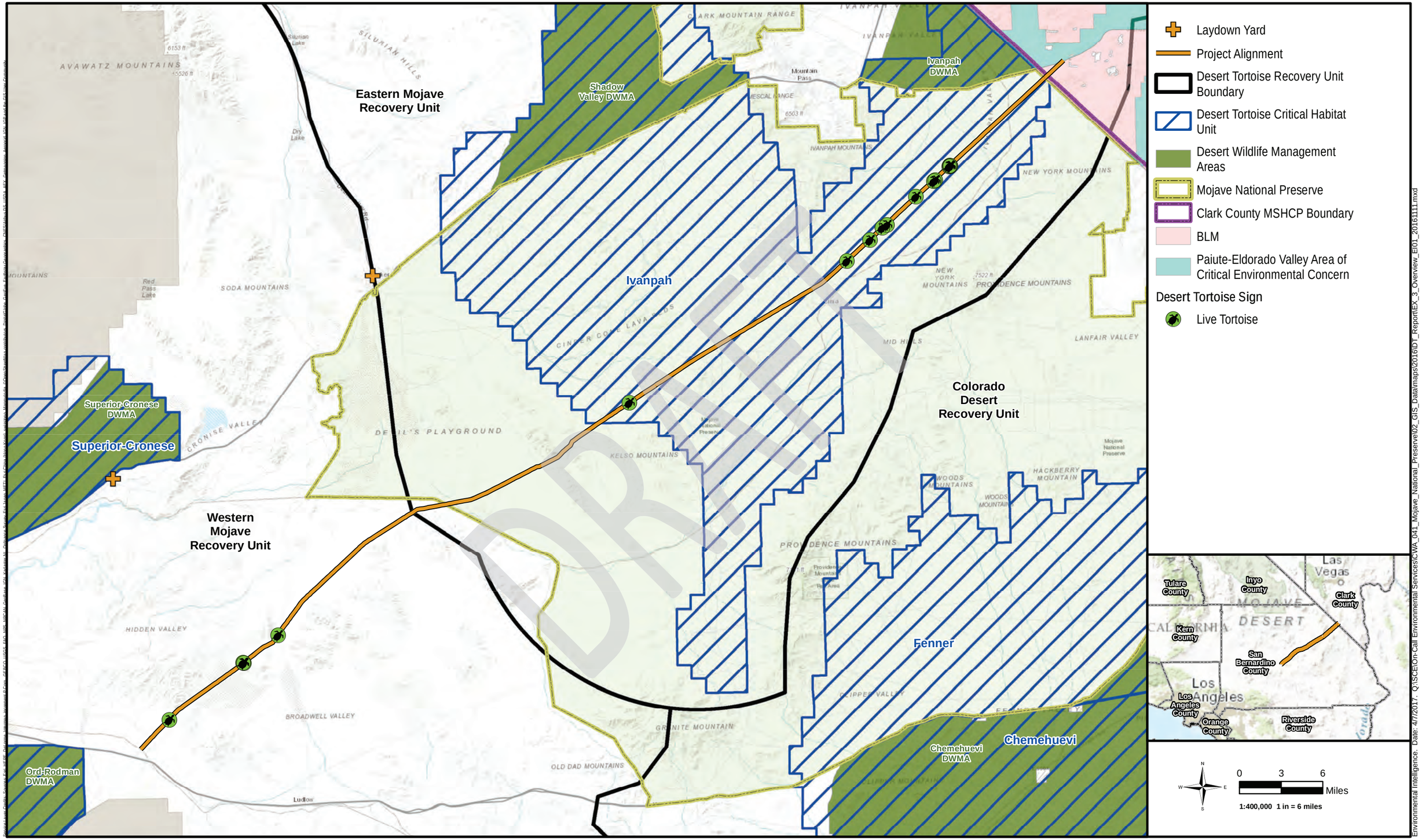
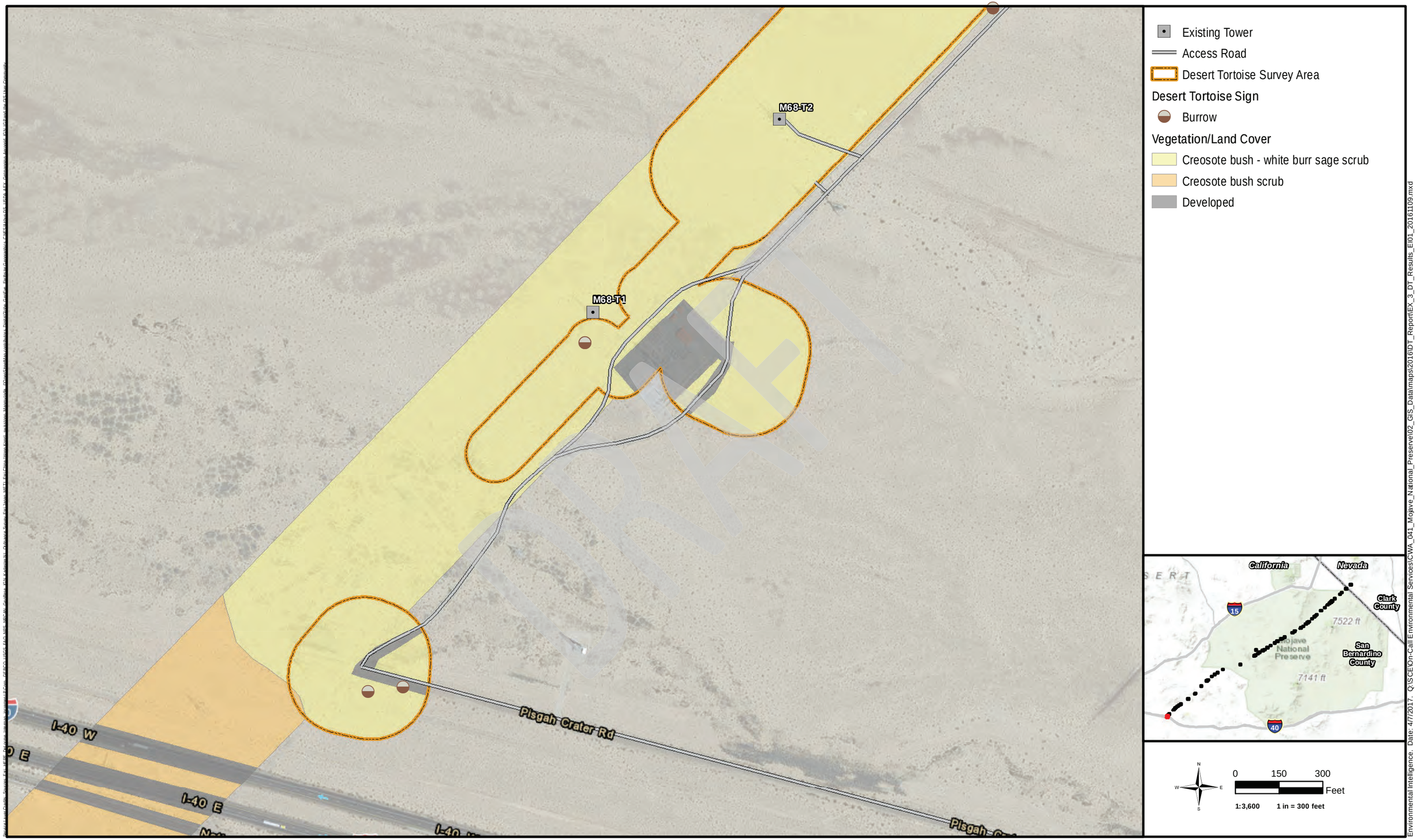


Exhibit 3. Desert Tortoise Survey Area and Results Overview

LVRAS Project | San Bernardino County, CA and Clark County, NV



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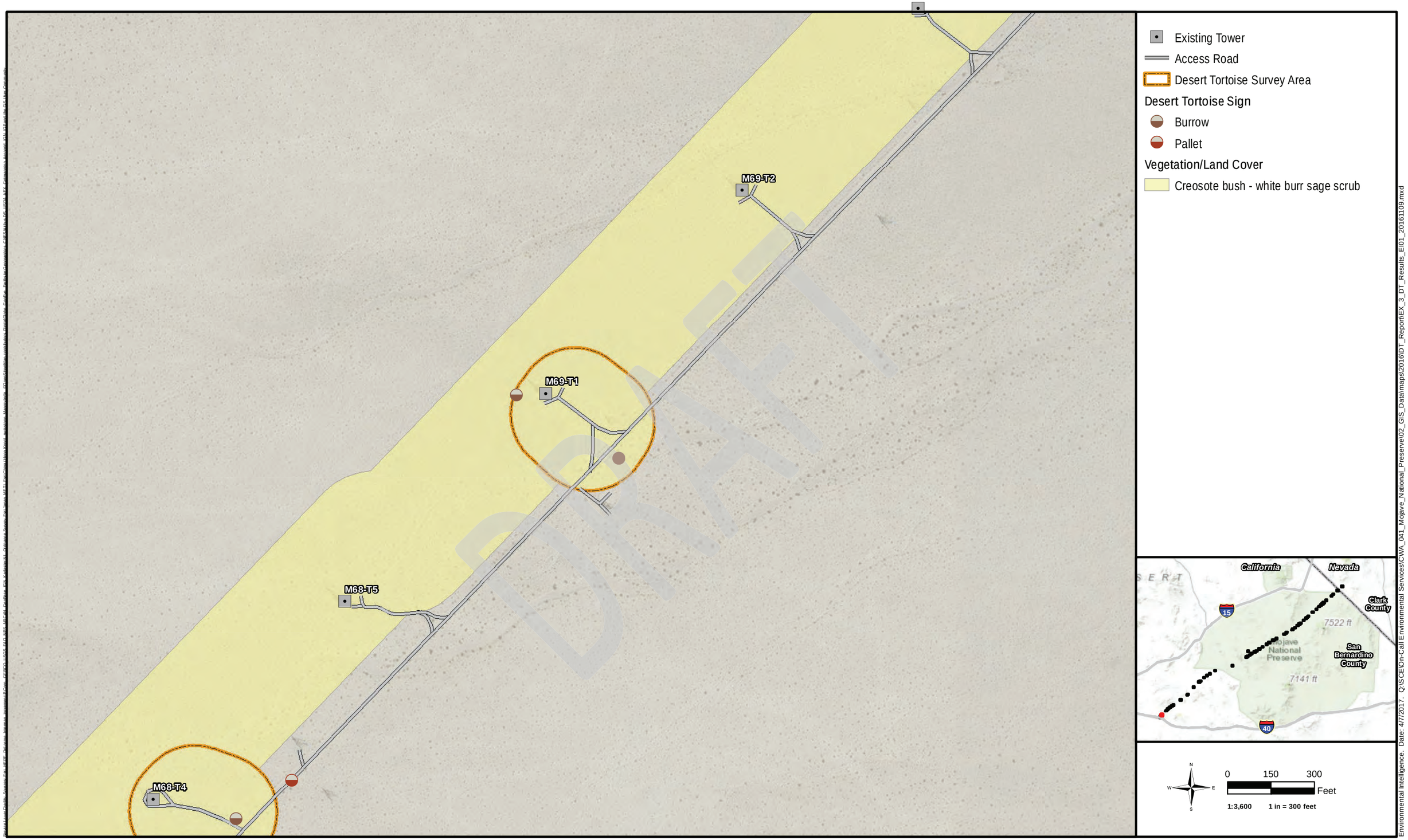
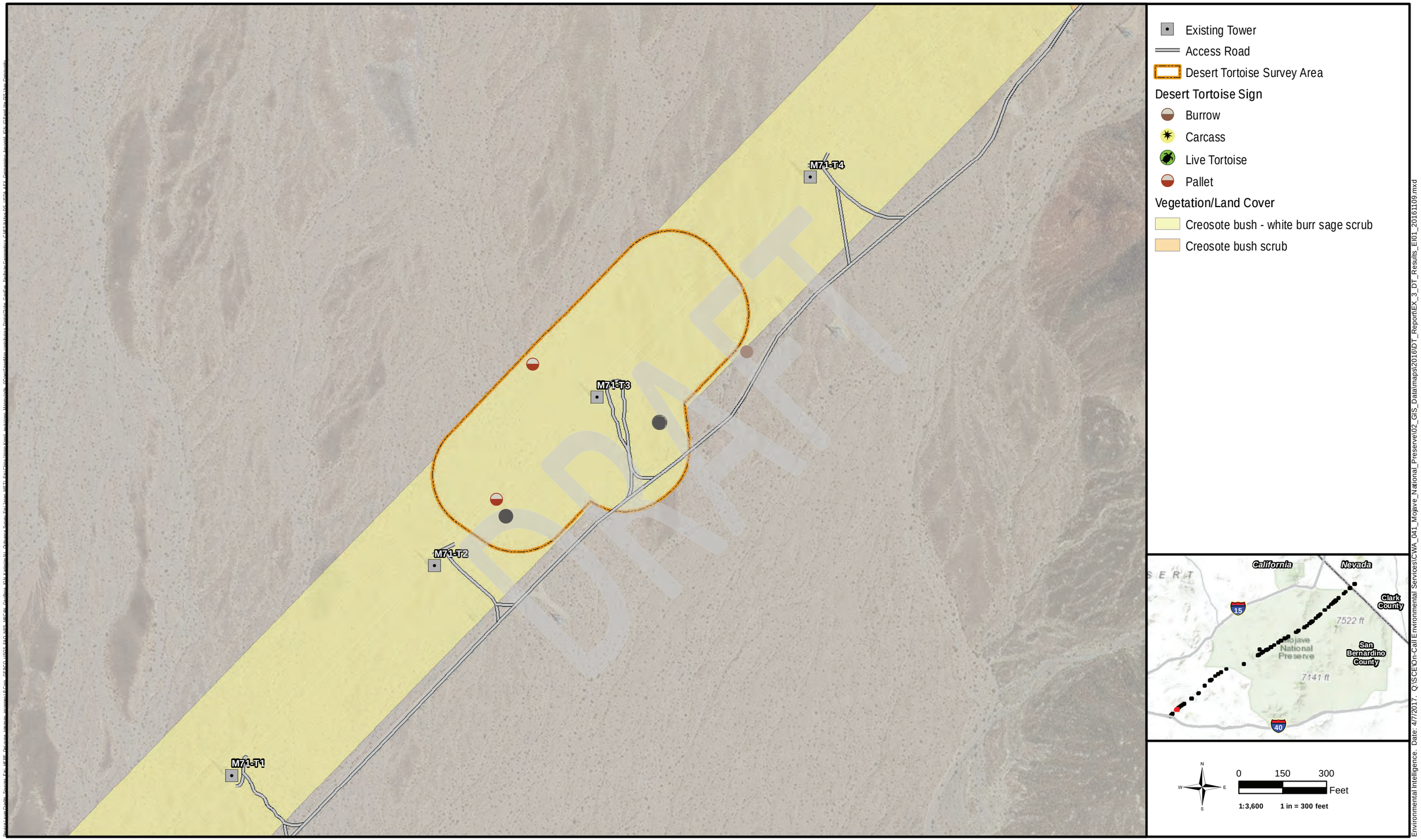
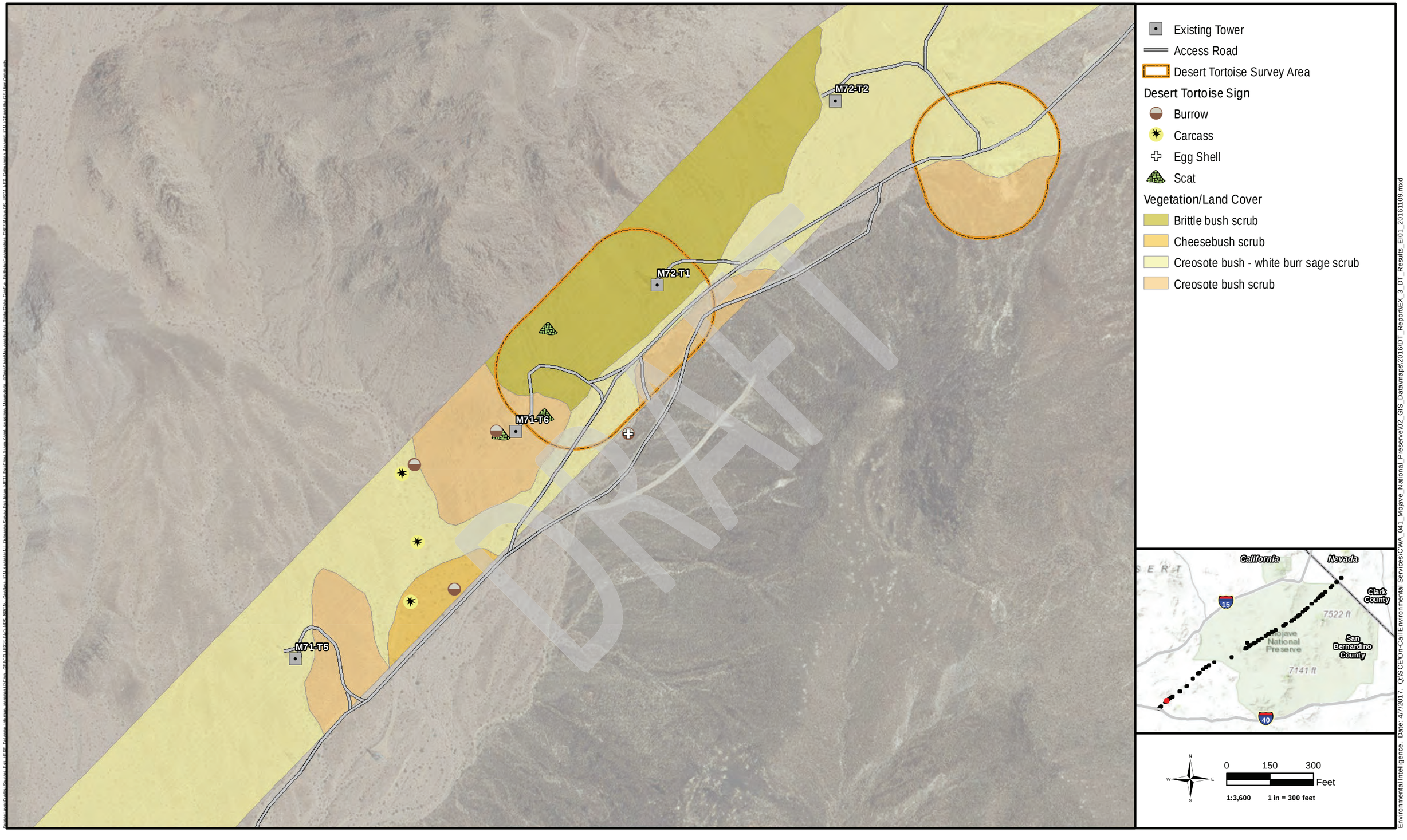
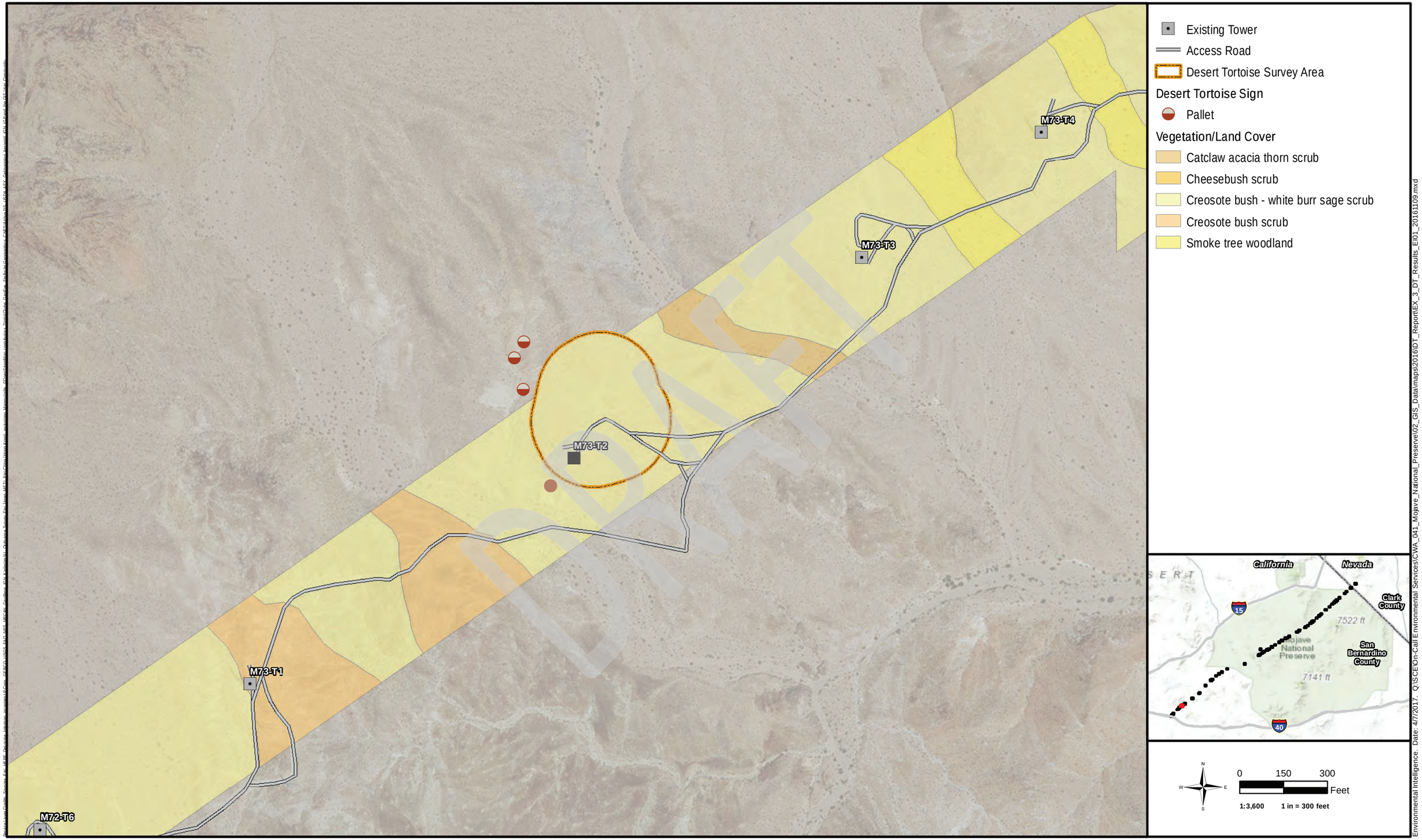
M68-T5
M68-T4
M68-T3
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Vegetation/Land Cover
Creosote bush - white burr sage scrub
Developed
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd

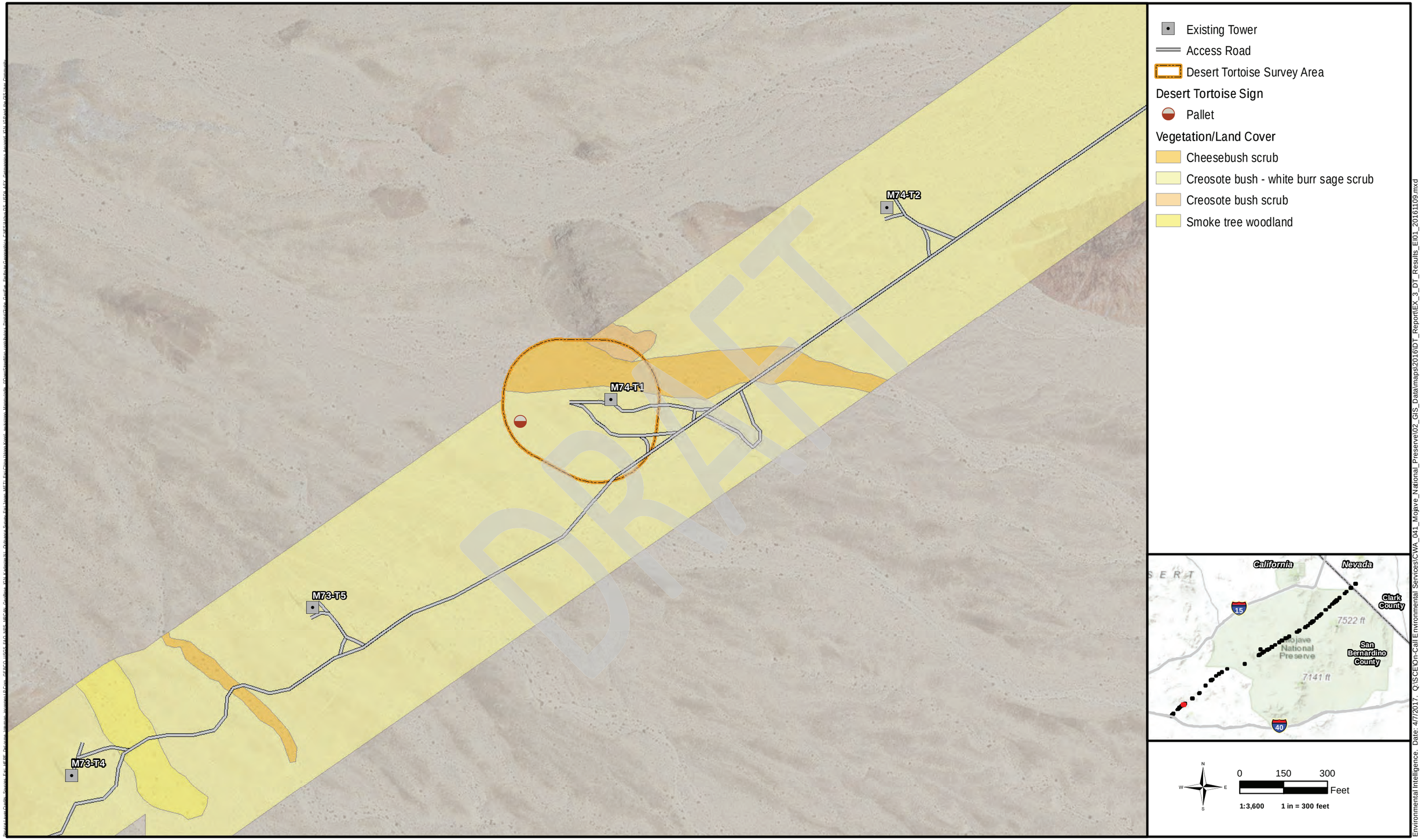

M69-T2
M69-T1
M68-T5
M68-T4
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Vegetation/Land Cover
Creosote bush - white burr sage scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M71-T4
M71-T3
M71-T2
M71-T1
DRAFT
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Carcass
Live Tortoise
Pallet
Vegetation/Land Cover
Creosote bush - white burr sage scrub
Creosote bush scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M72-T2
M72-T1
M71-T6
M71-T5
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Carcass
Egg Shell
Scat
Vegetation/Land Cover
Brittle bush scrub
Cheesebush scrub
Creosote bush - white burr sage scrub
Creosote bush scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M72-T6
M72-T5
M72-T4
M72-T3
M72-T2
DRAFT
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Carcass
Pallet
Scat
Vegetation/Land Cover
Brittle bush scrub
Creosote bush - white burr sage scrub
Creosote bush scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M73-T4
M73-T3
M73-T2
M73-T1
M72-T6
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Pallet
Vegetation/Land Cover
Catclaw acacia thorn scrub
Cheesebush scrub
Creosote bush - white burr sage scrub
Creosote bush scrub
Smoke tree woodland
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call\Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M74-T2
M74-T1
M73-T5
M73-T4
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Pallet
Vegetation/Land Cover
Cheesebush scrub
Creosote bush - white burr sage scrub
Creosote bush scrub
Smoke tree woodland
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
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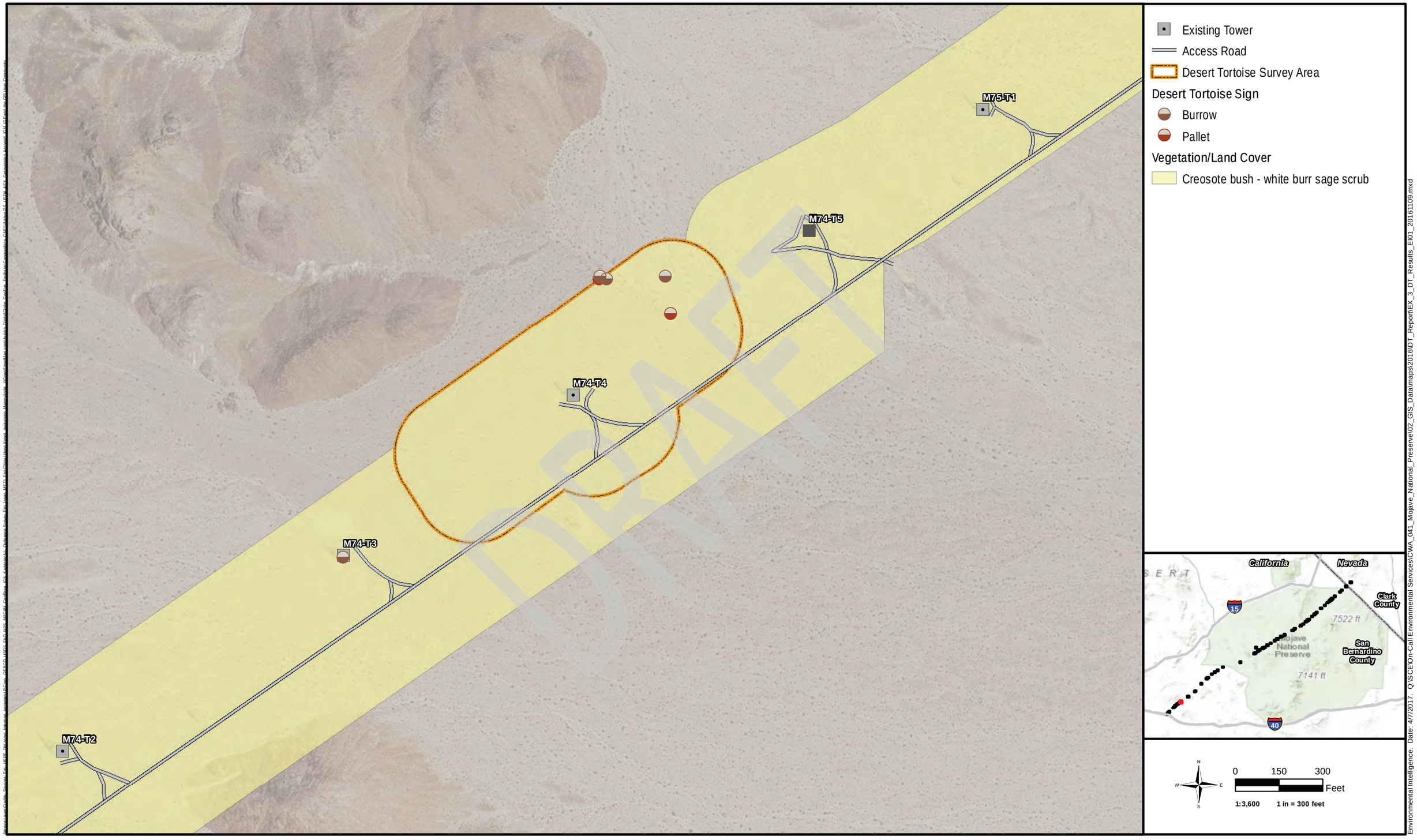
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M75-T1
M74-T5
M74-T4
M74-T3
M74-T2
DRAFT
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Vegetation/Land Cover
Creosote bush - white burr sage scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
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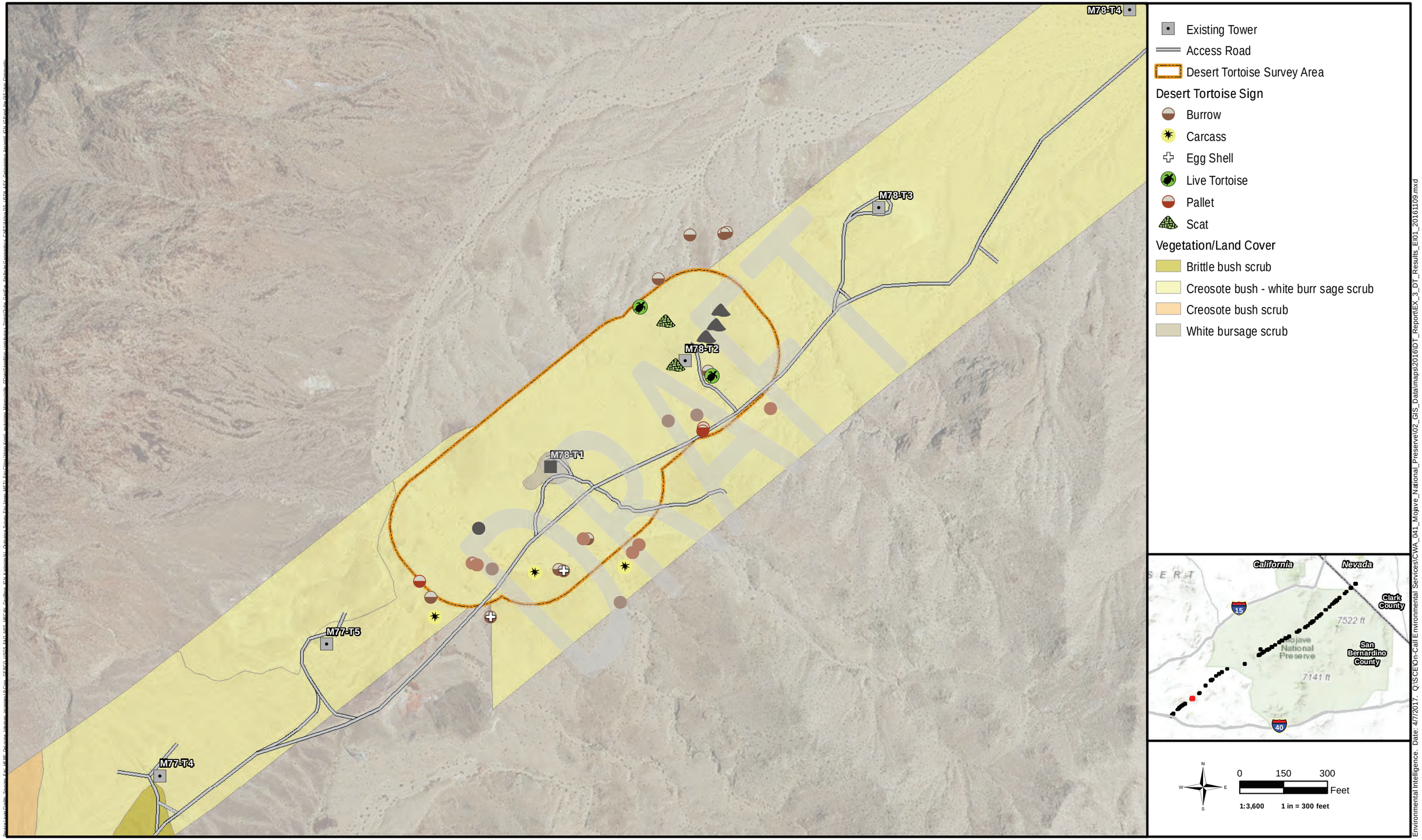
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M78-T4
M78-T3
M78-T2
M78-T1
M77-T5
M77-T4
DRAFT
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Carcass
Egg Shell
Live Tortoise
Pallet
Scat
Vegetation/Land Cover
Brittle bush scrub
Creosote bush - white burr sage scrub
Creosote bush scrub
White bursage scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
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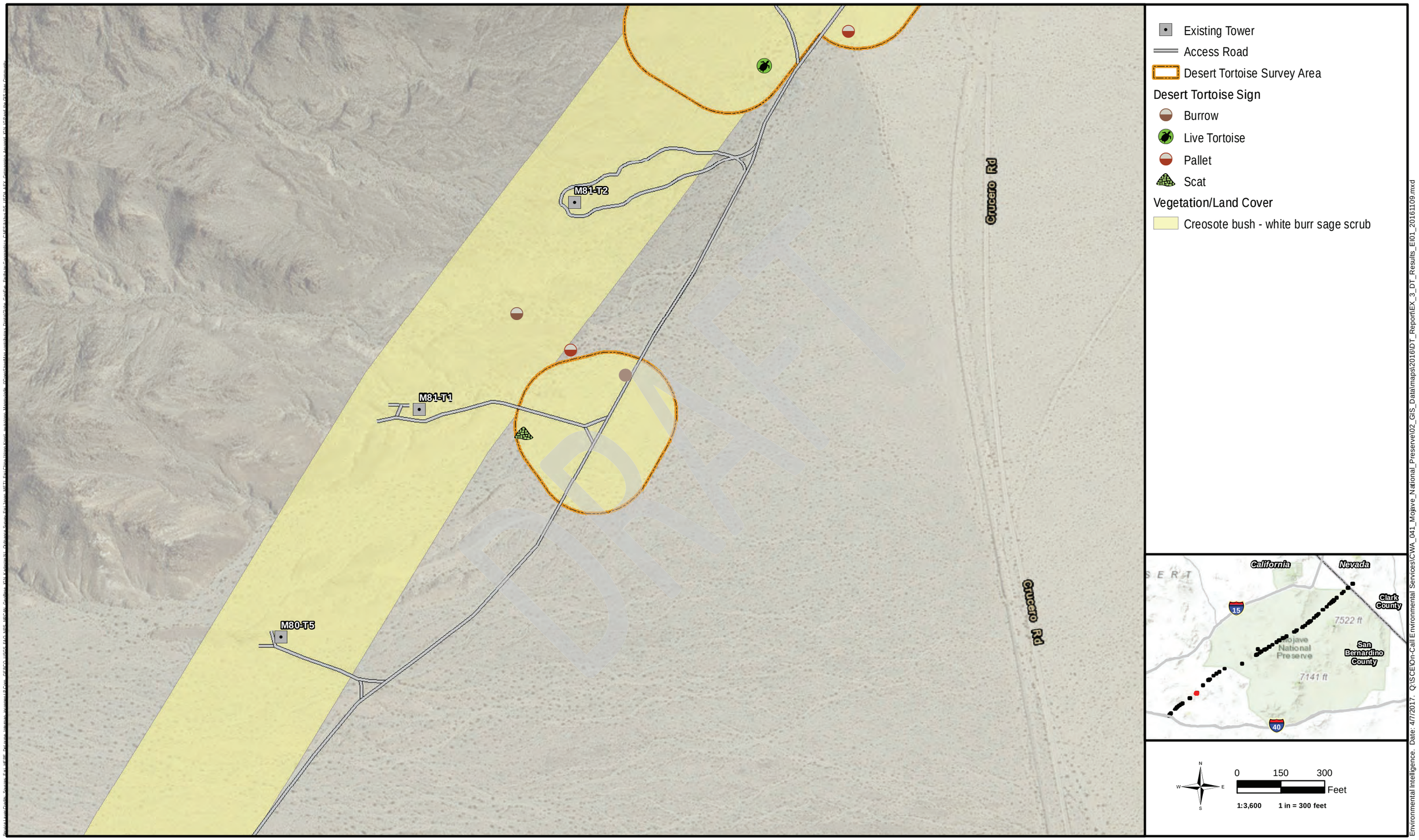
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd



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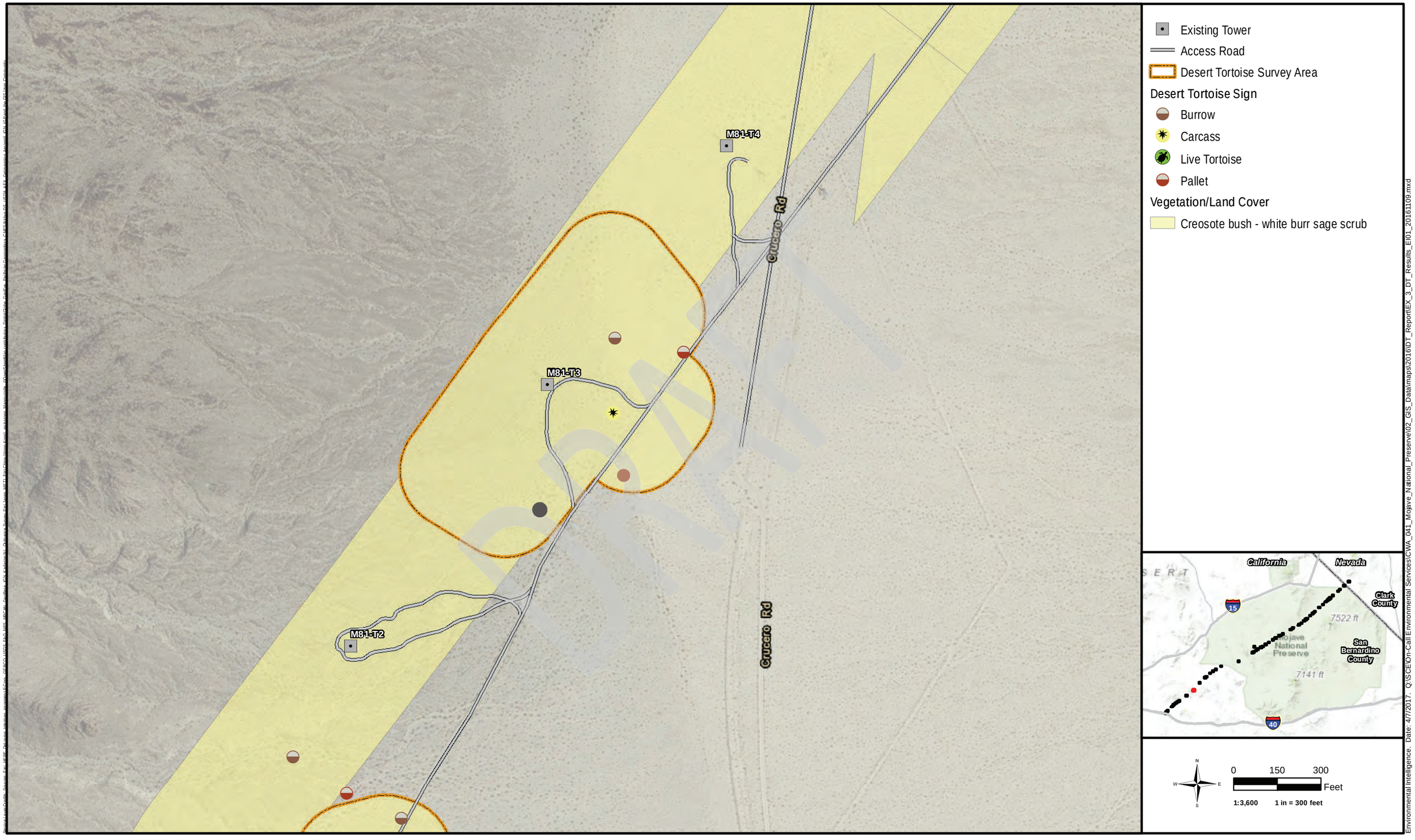
M81-T4
M81-T3
M81-T2
Crucero Rd
Crucero Rd
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Carcass
Live Tortoise
Pallet
Vegetation/Land Cover
Creosote bush - white burr sage scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
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150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd

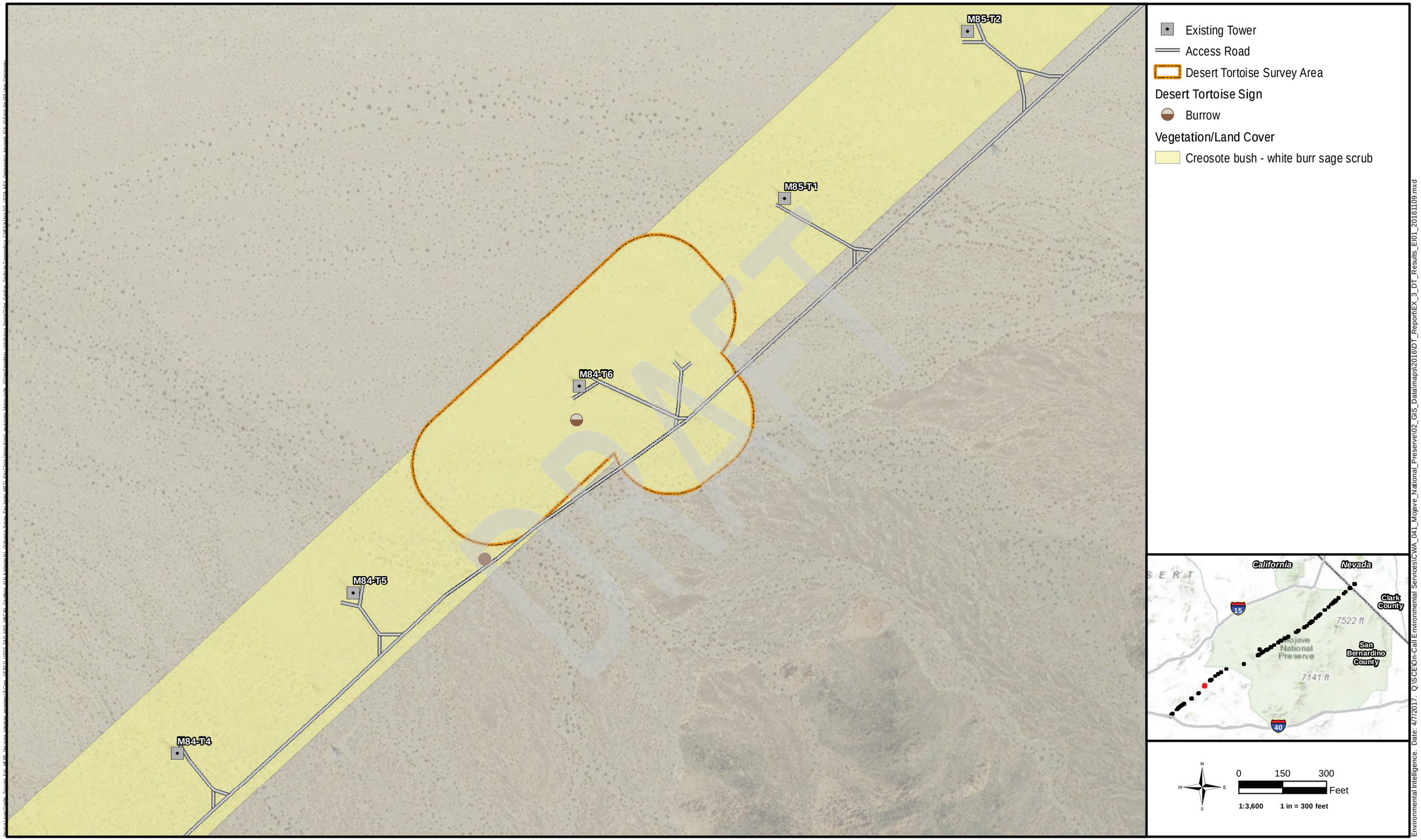
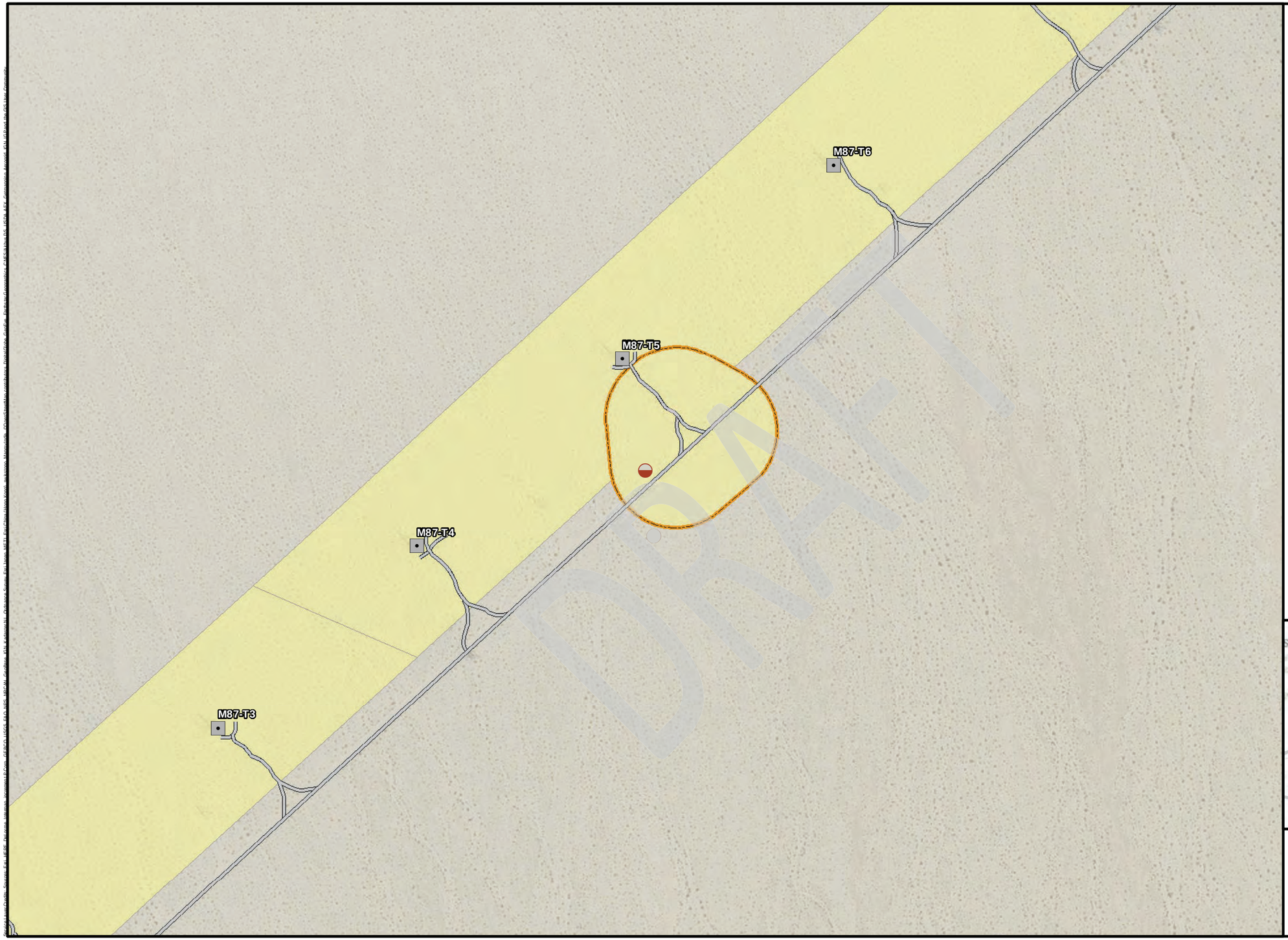


Exhibit 3. Desert Tortoise Survey Area and Results Page 13 of 56

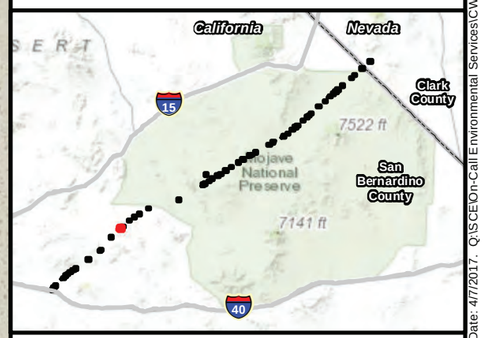
LVRAS Project | San Bernardino County, CA and Clark County, NV



Existing Tower
Access Road
Desert Tortoise Survey Area

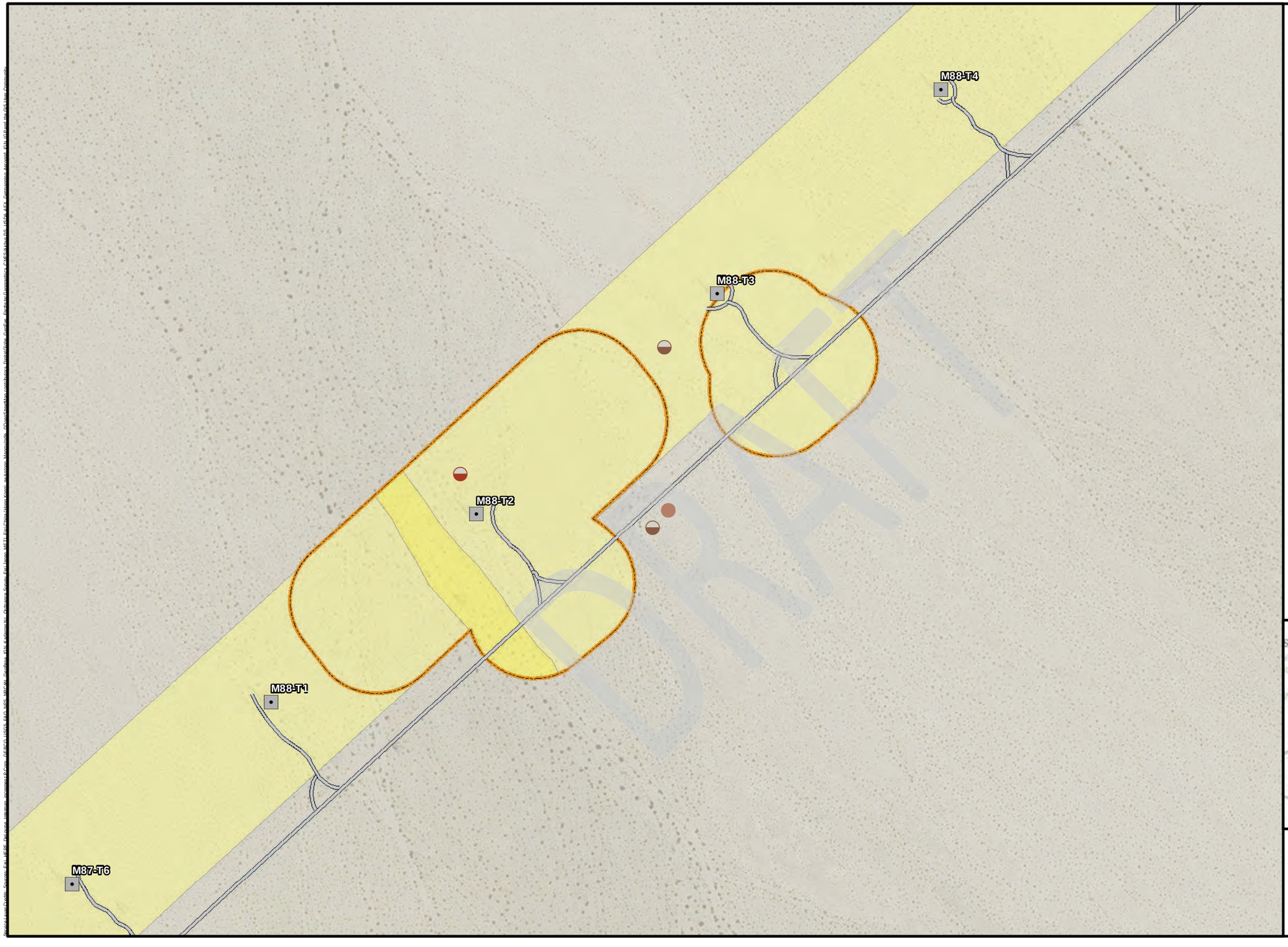
Desert Tortoise Sign
Burrow
Pallet

Vegetation/Land Cover
Creosote bush - white burr sage scrub



N
W
E
S
0 150 300
Feet
1:3,600 1 in = 300 feet

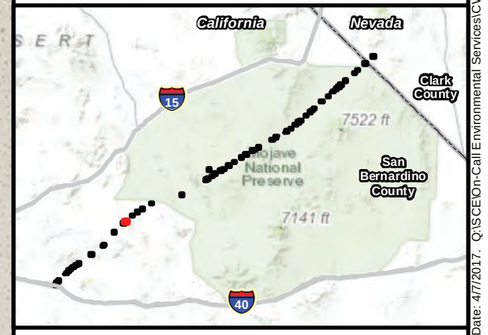
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd



Existing Tower
Access Road
Desert Tortoise Survey Area

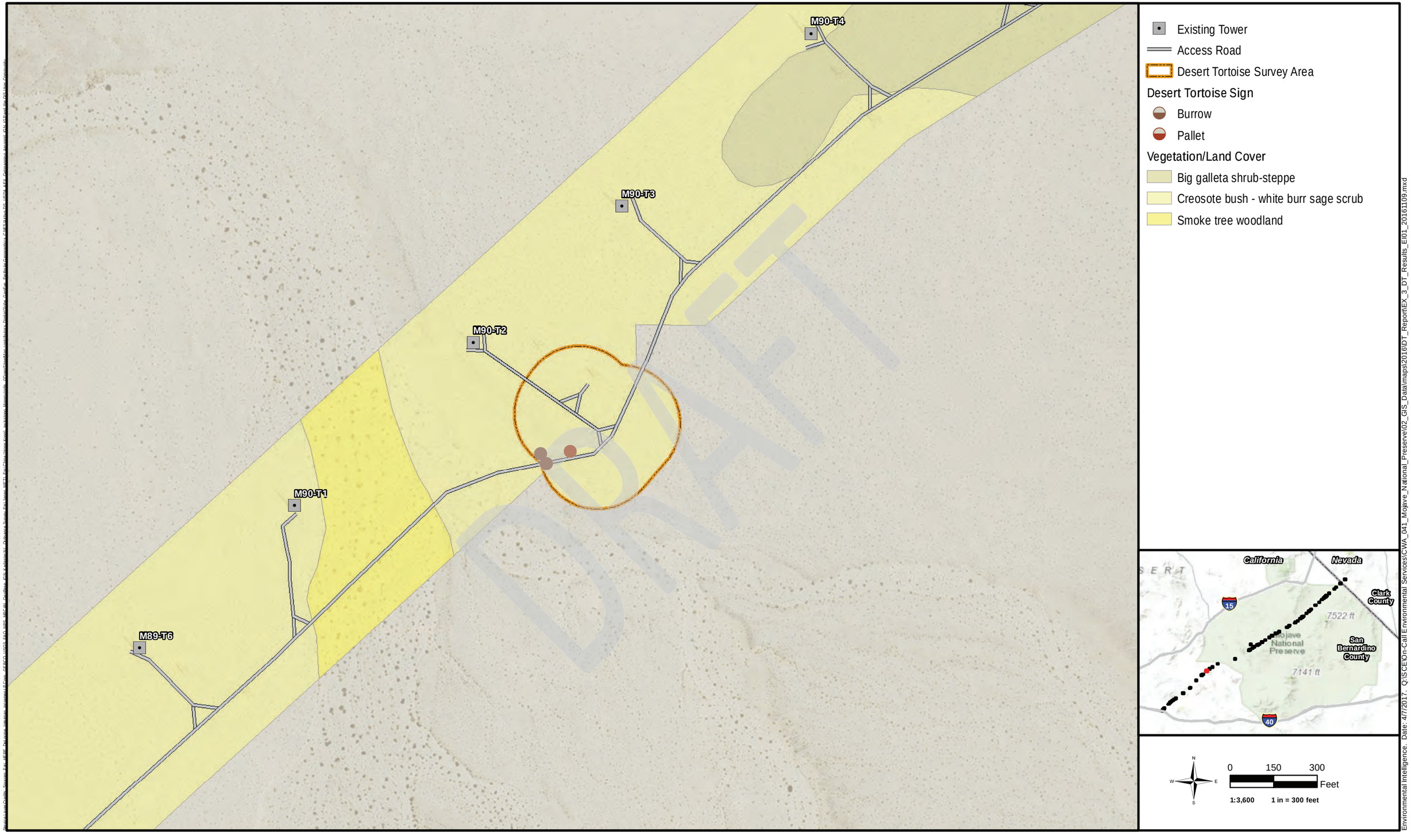
Desert Tortoise Sign
Burrow
Pallet

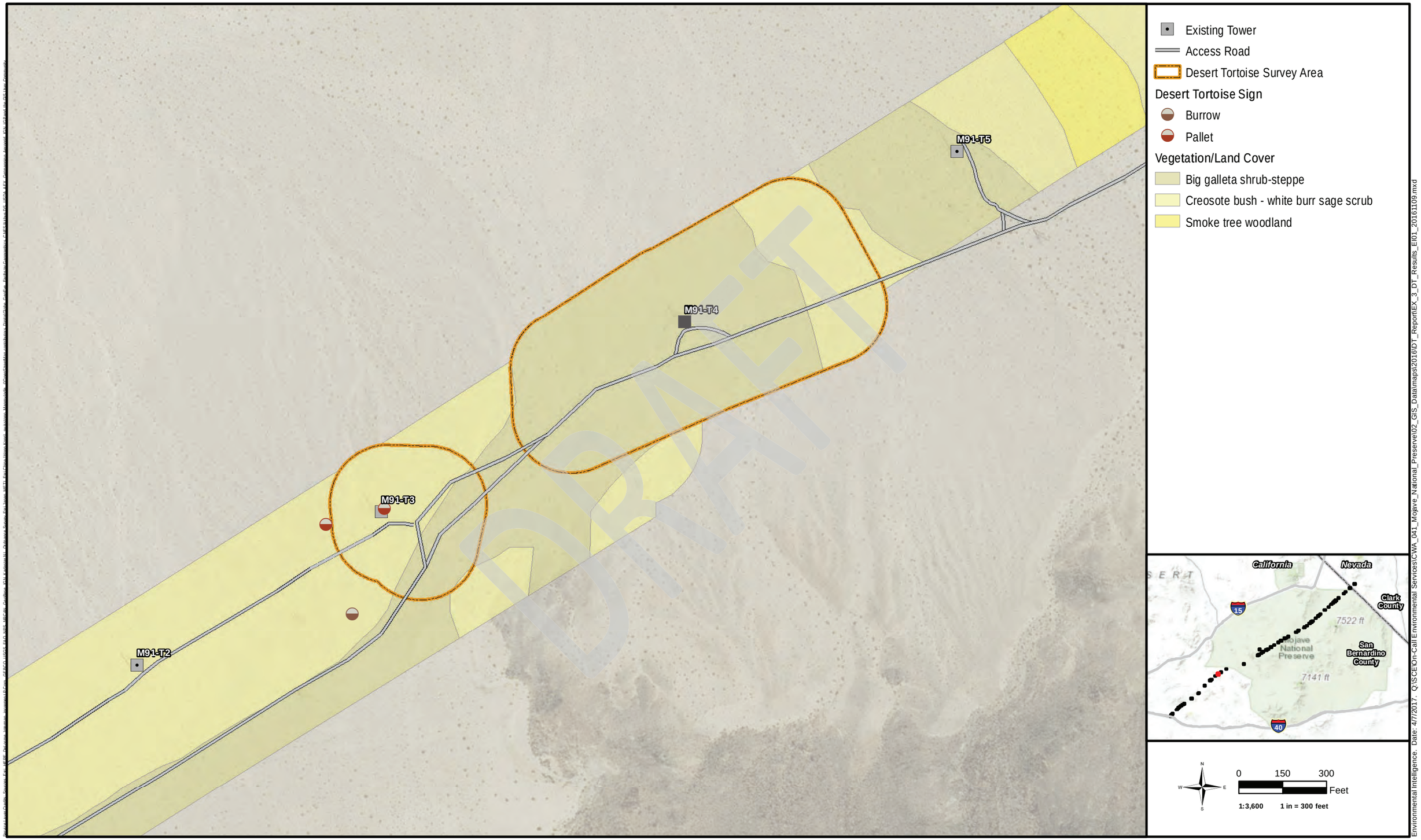
Vegetation/Land Cover
Creosote bush - white burr sage scrub
Smoke tree woodland

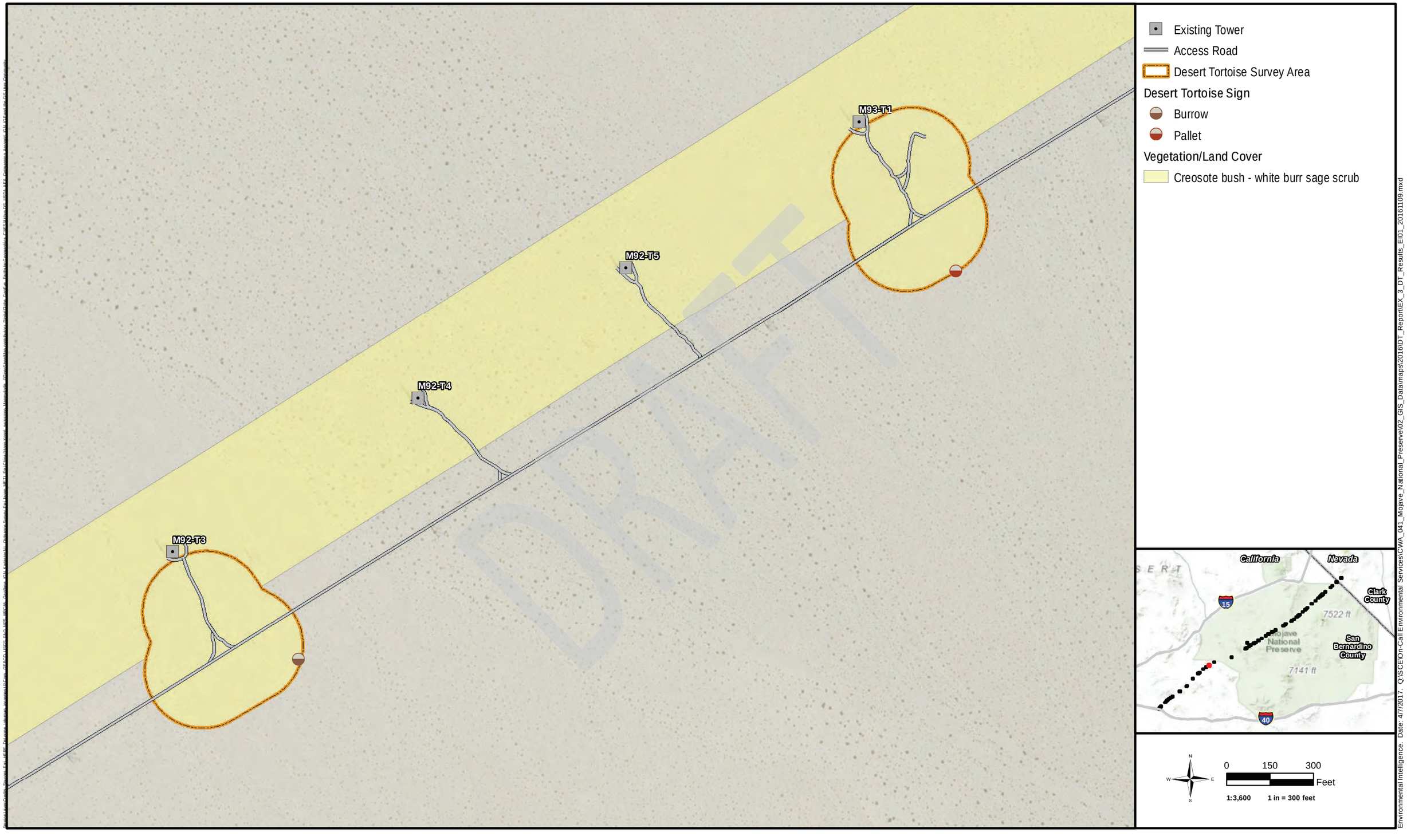


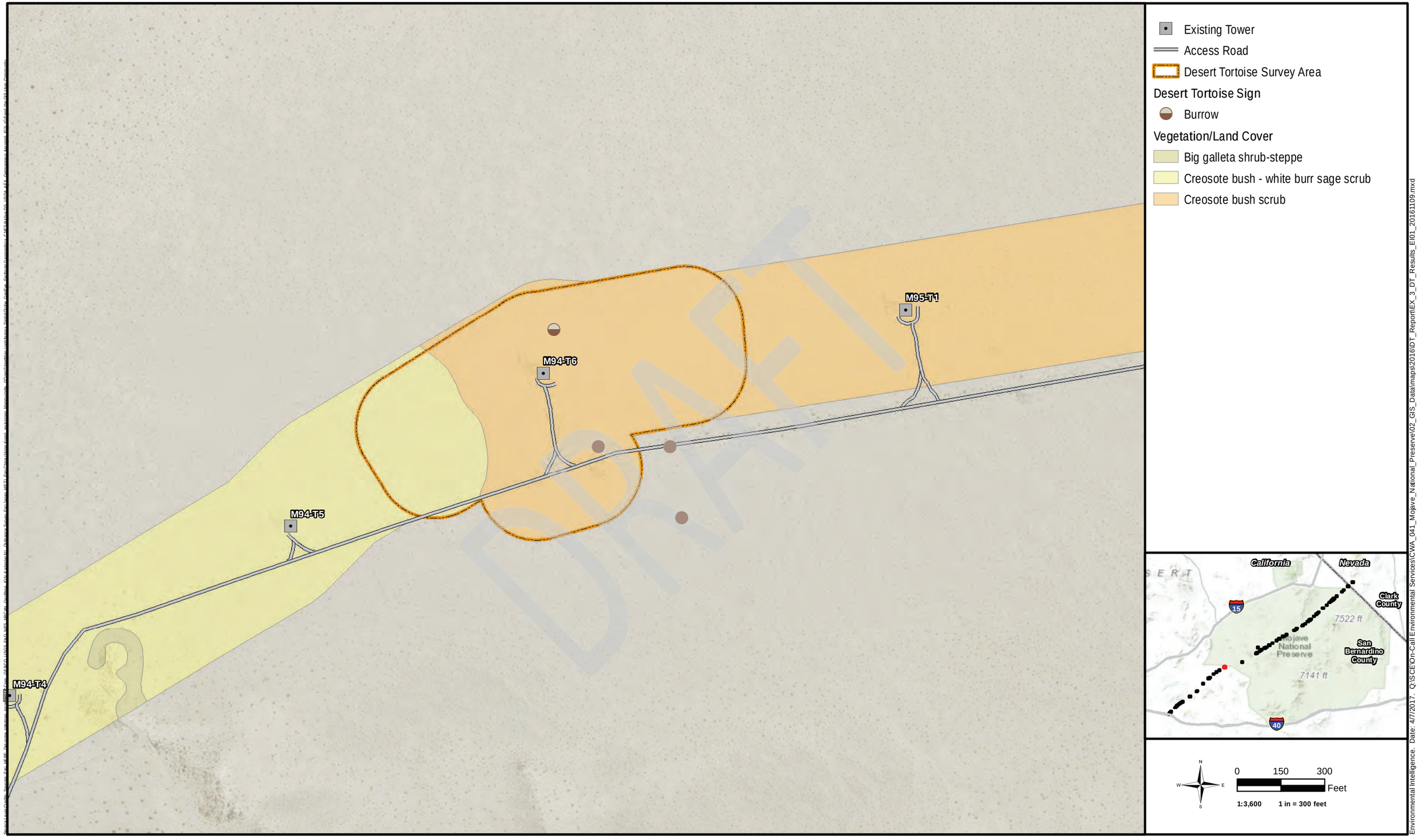
N
W
E
S
0 150 300
Feet
1:3,600 1 in = 300 feet

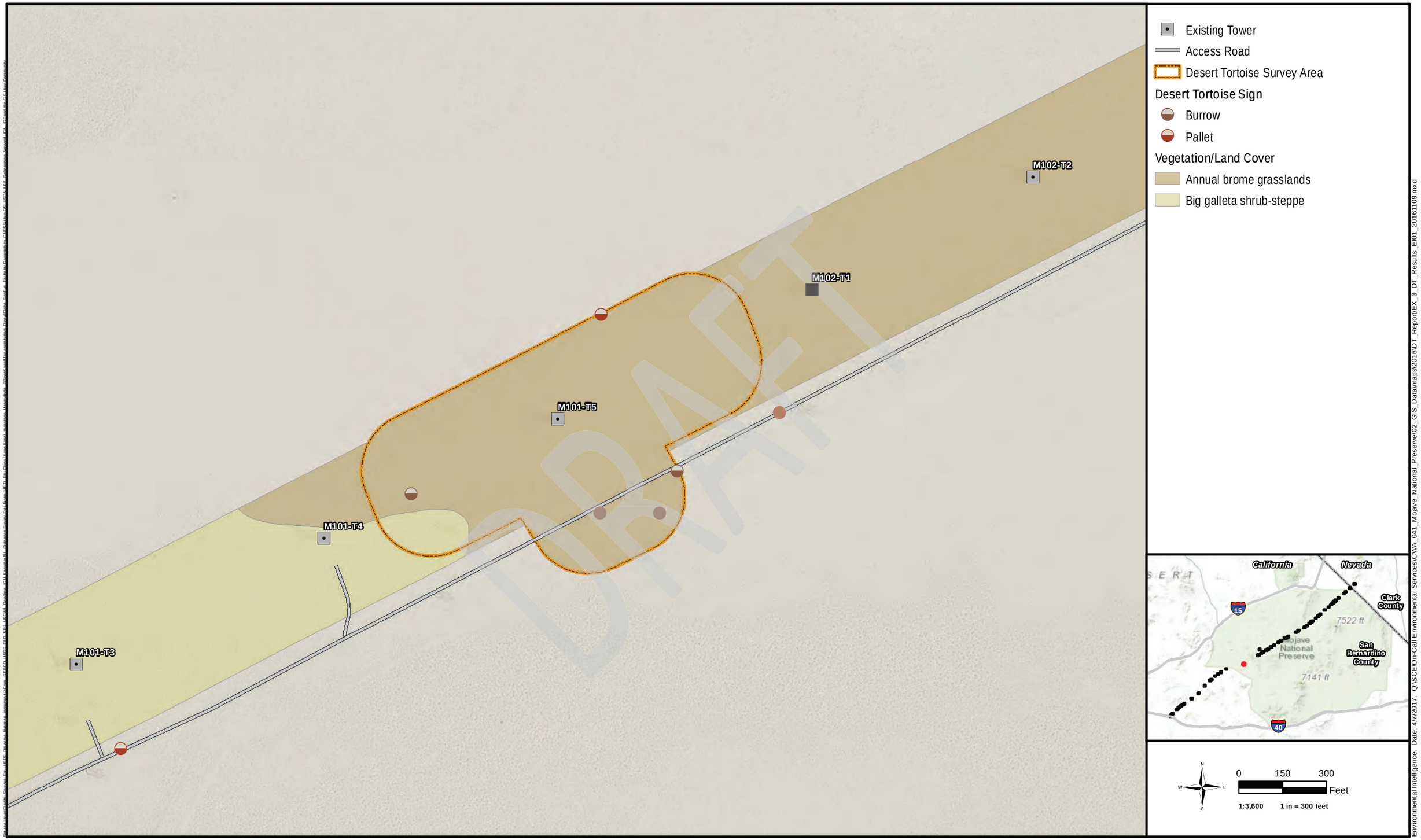
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd

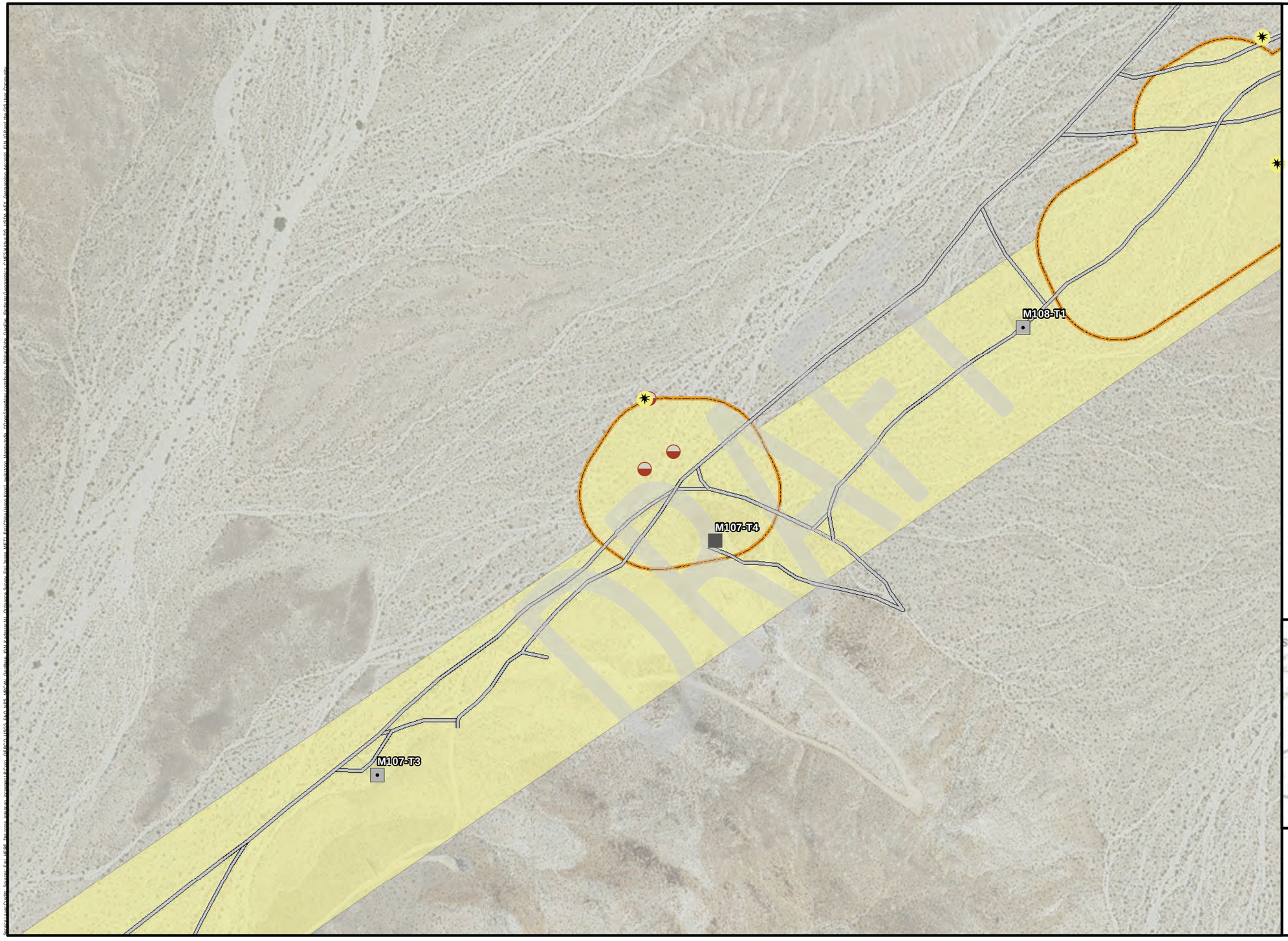

M90-T4
M90-T3
M90-T2
M90-T1
M89-T6
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Vegetation/Land Cover
Big galleta shrub-steppe
Creosote bush - white burr sage scrub
Smoke tree woodland
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M91-T5
M91-T4
M91-T3
M91-T2
DRAFT
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Vegetation/Land Cover
Big galleta shrub-steppe
Creosote bush - white burr sage scrub
Smoke tree woodland
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd

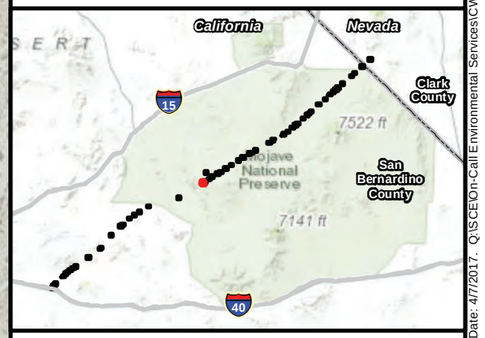

M93-T1
M92-T5
M92-T4
M92-T3
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Vegetation/Land Cover
Creosote bush - white burr sage scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_Ef01_20161109.mxd


M95-T1
M94-T6
M94-T5
M94-T4
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Vegetation/Land Cover
Big galleta shrub-steppe
Creosote bush - white burr sage scrub
Creosote bush scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence - Date: 4/7/2017 - Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_Ef01_20161109.mxd


M102-T2
M102-T1
M101-T5
M101-T4
M101-T3
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Vegetation/Land Cover
Annual brome grasslands
Big galleta shrub-steppe
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd

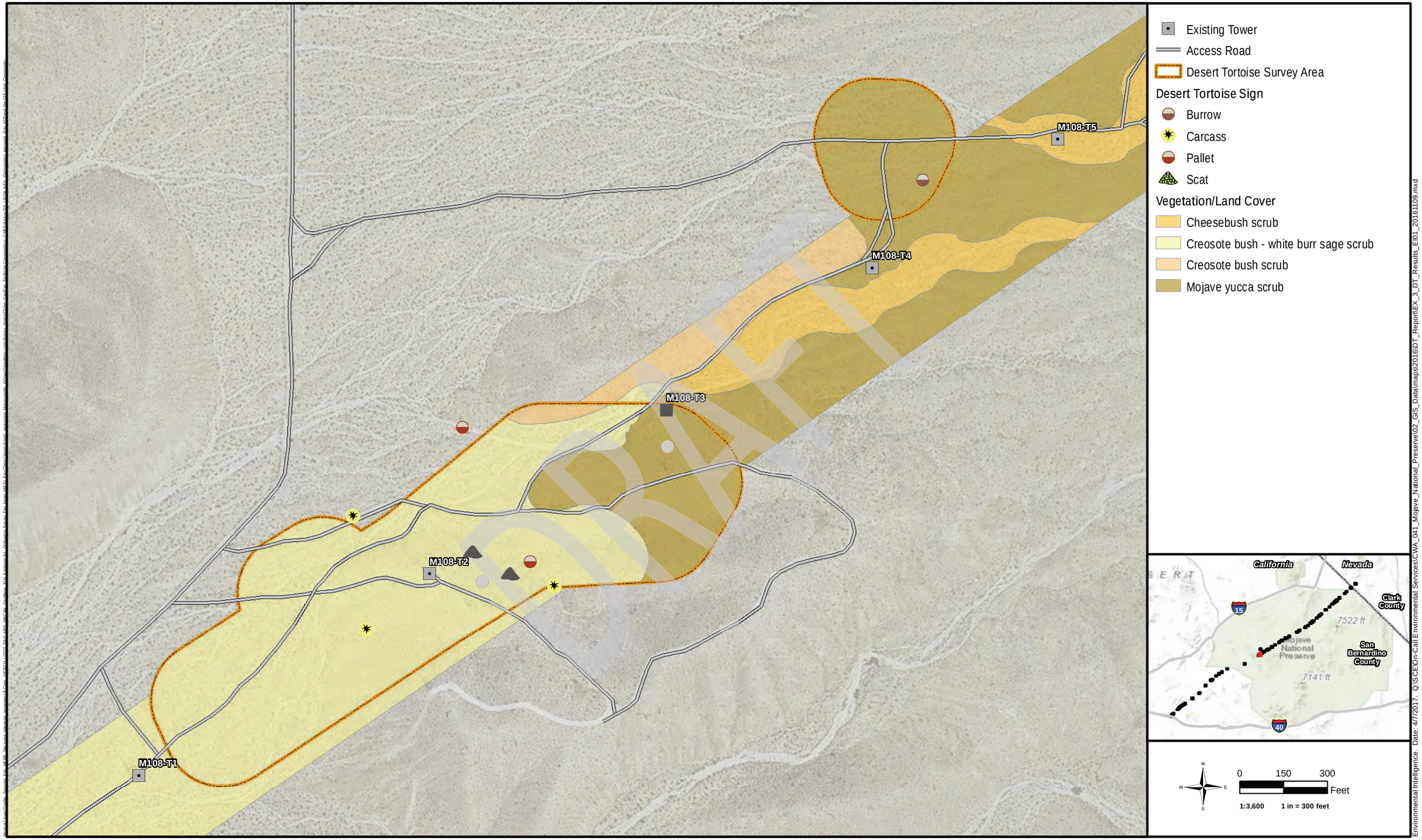


Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Carcass
Pallet
Vegetation/Land Cover
Creosote bush - white burr sage scrub



N
W
E
S
0 150 300
Feet
1:3,600 1 in = 300 feet

Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_Ef01_20161109.mxd



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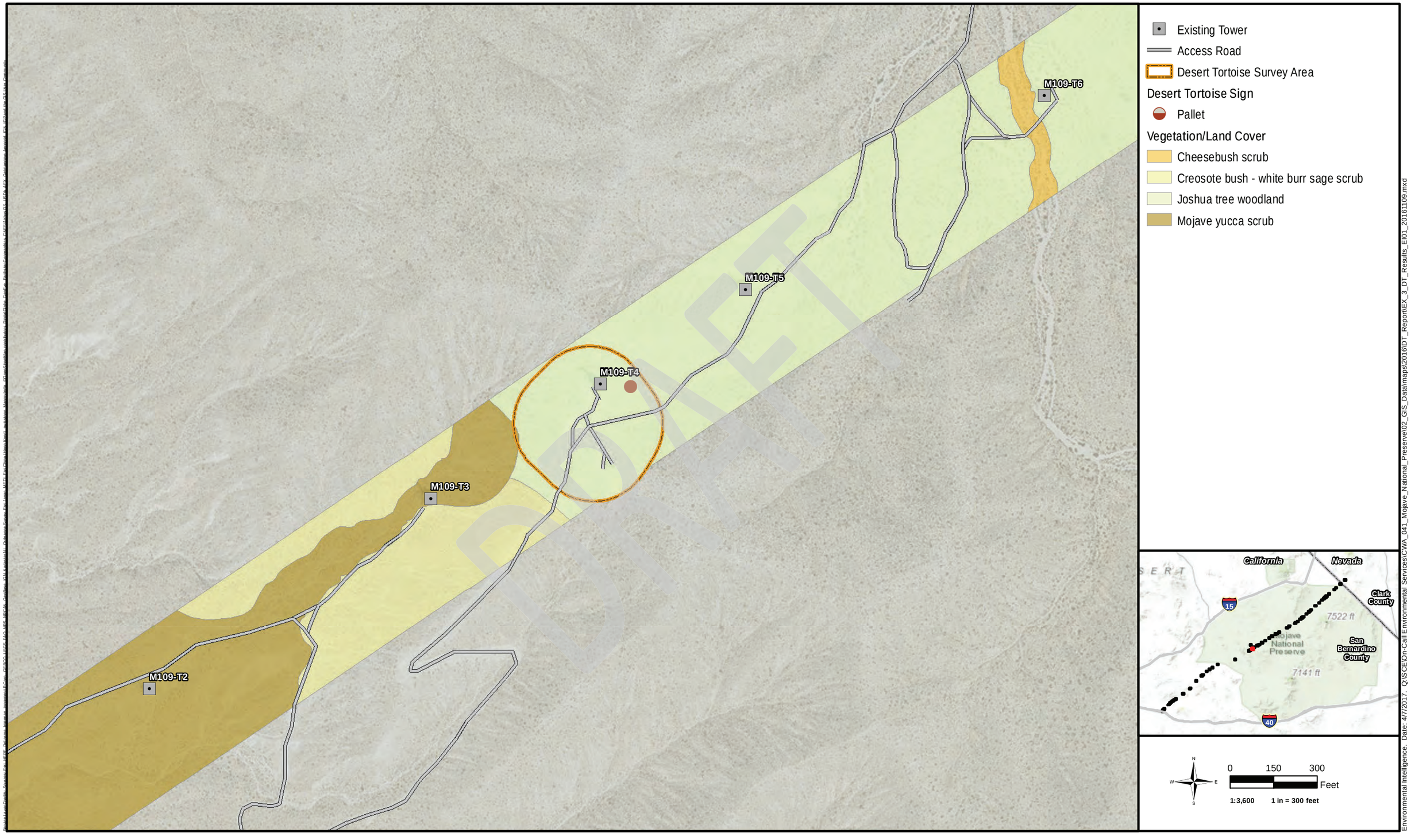

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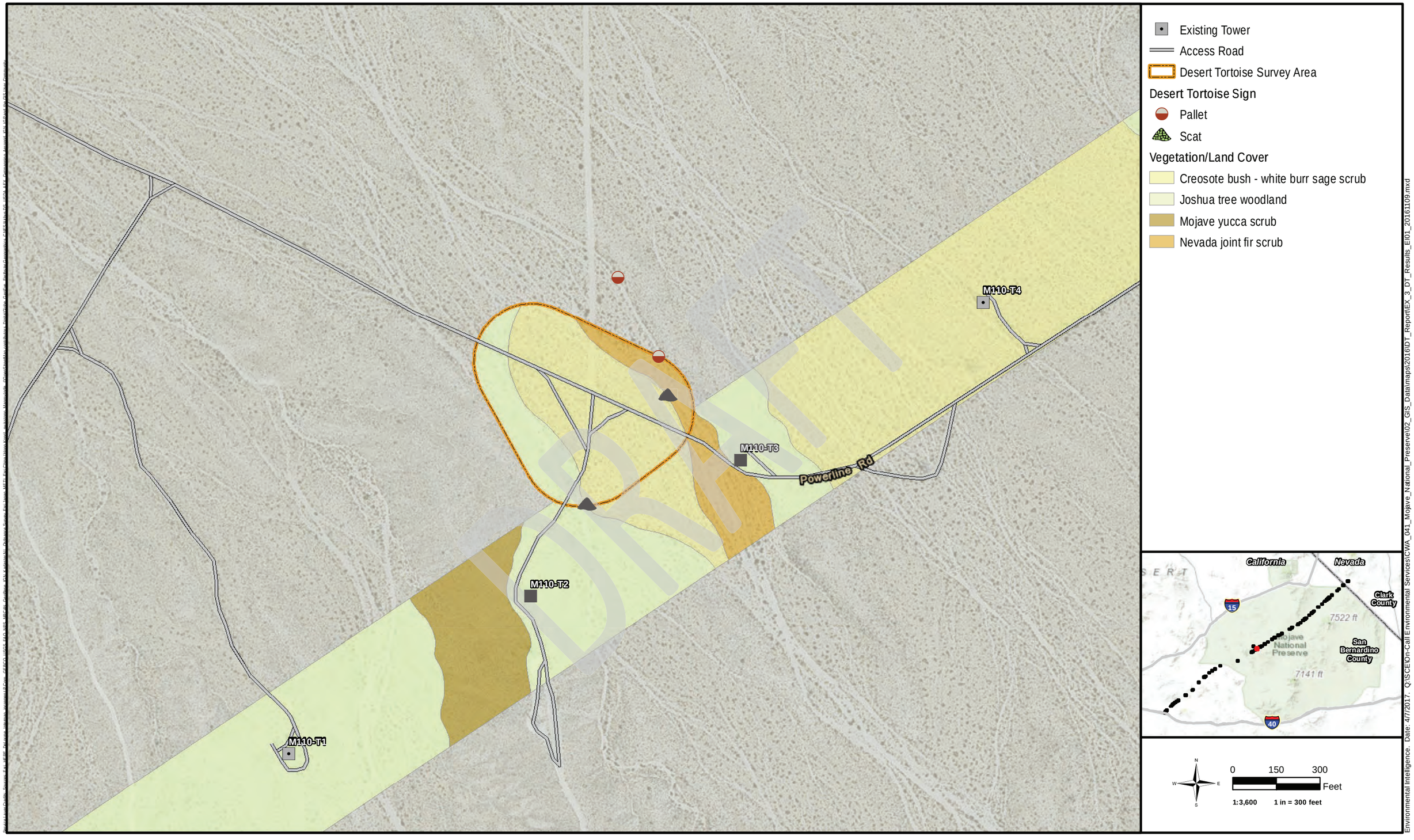
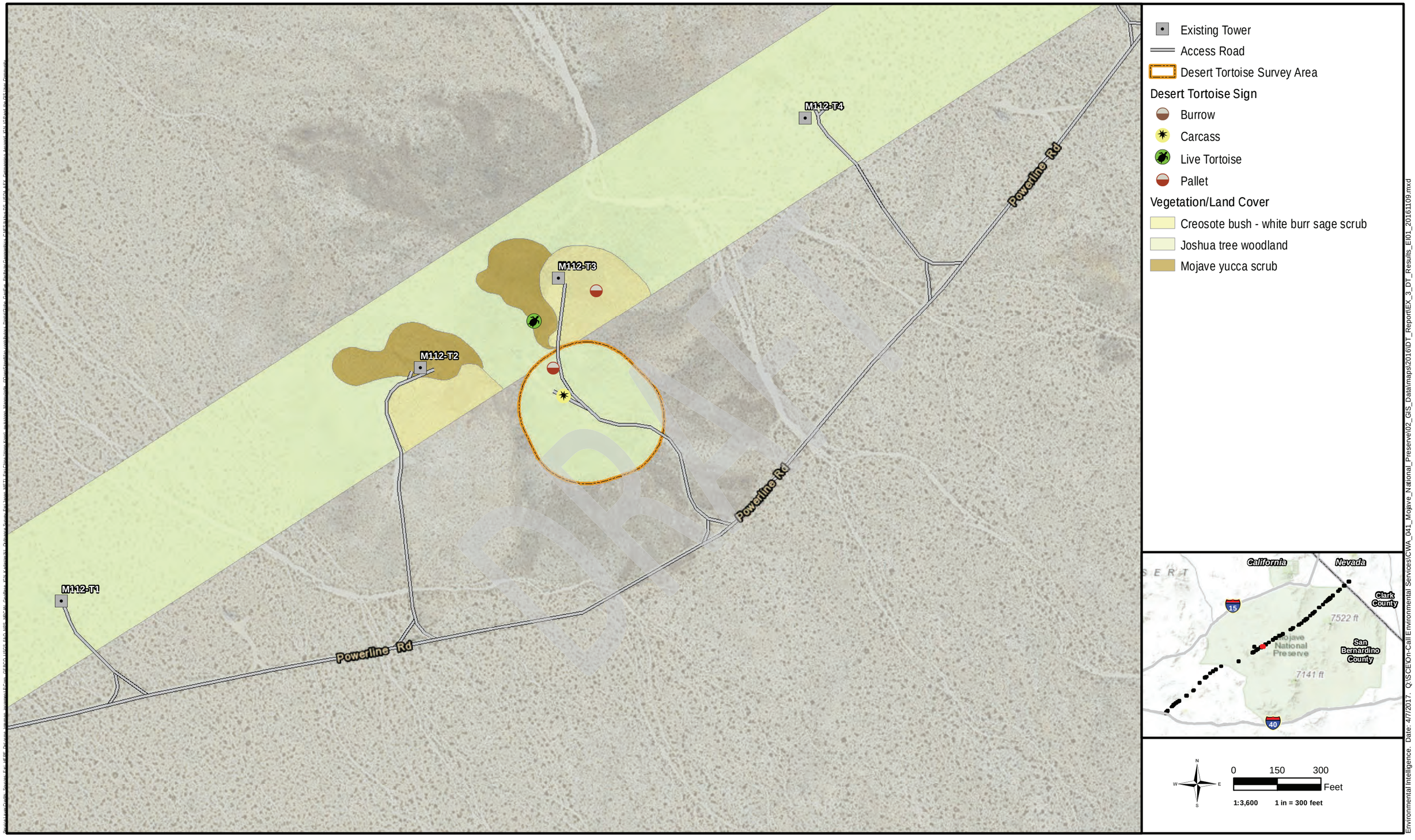
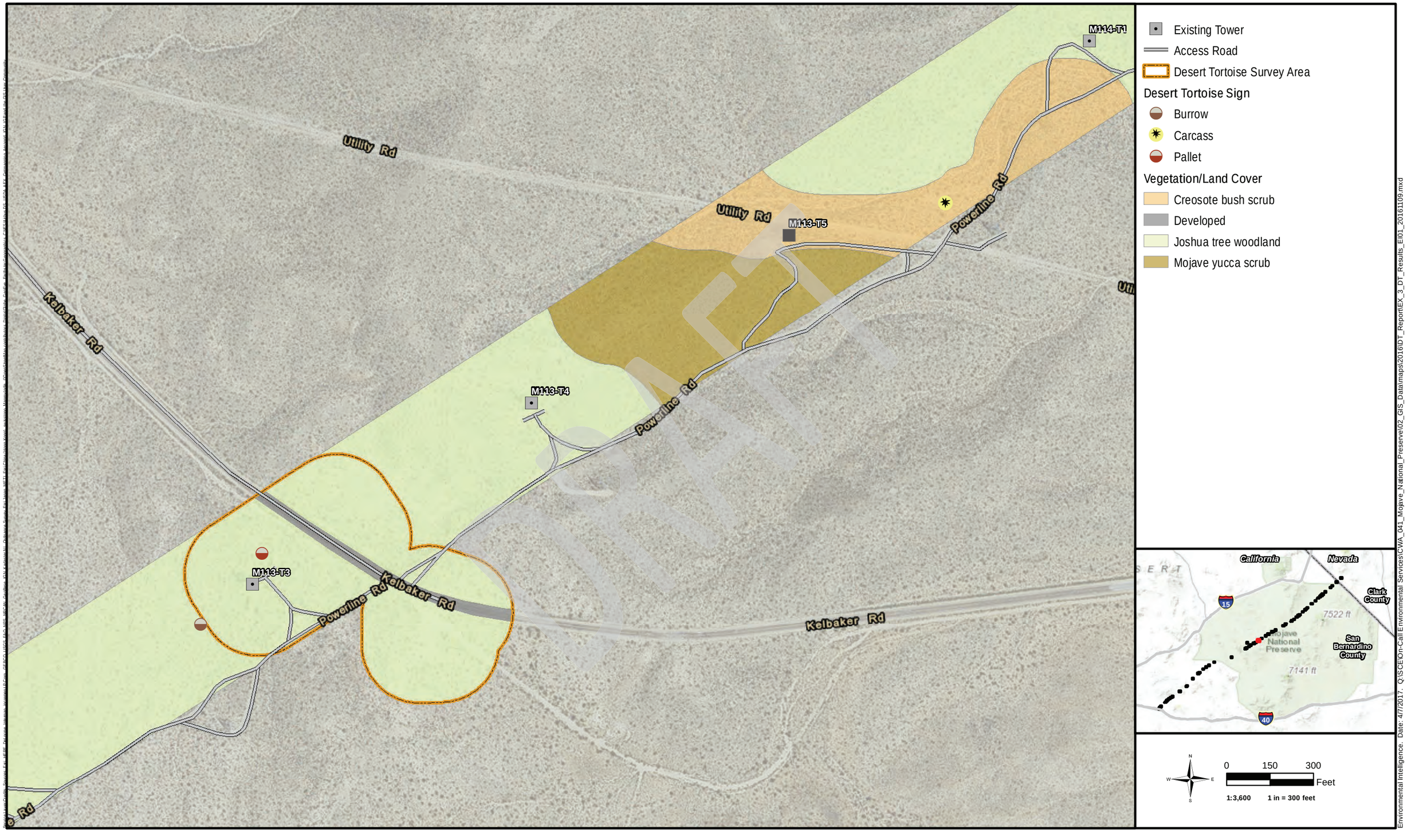
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Vegetation/Land Cover
Barren-Not Developed
Cheesebush scrub
Creosote bush - white burr sage scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
S
E
W
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call\Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_Ef01_20161109.mxd

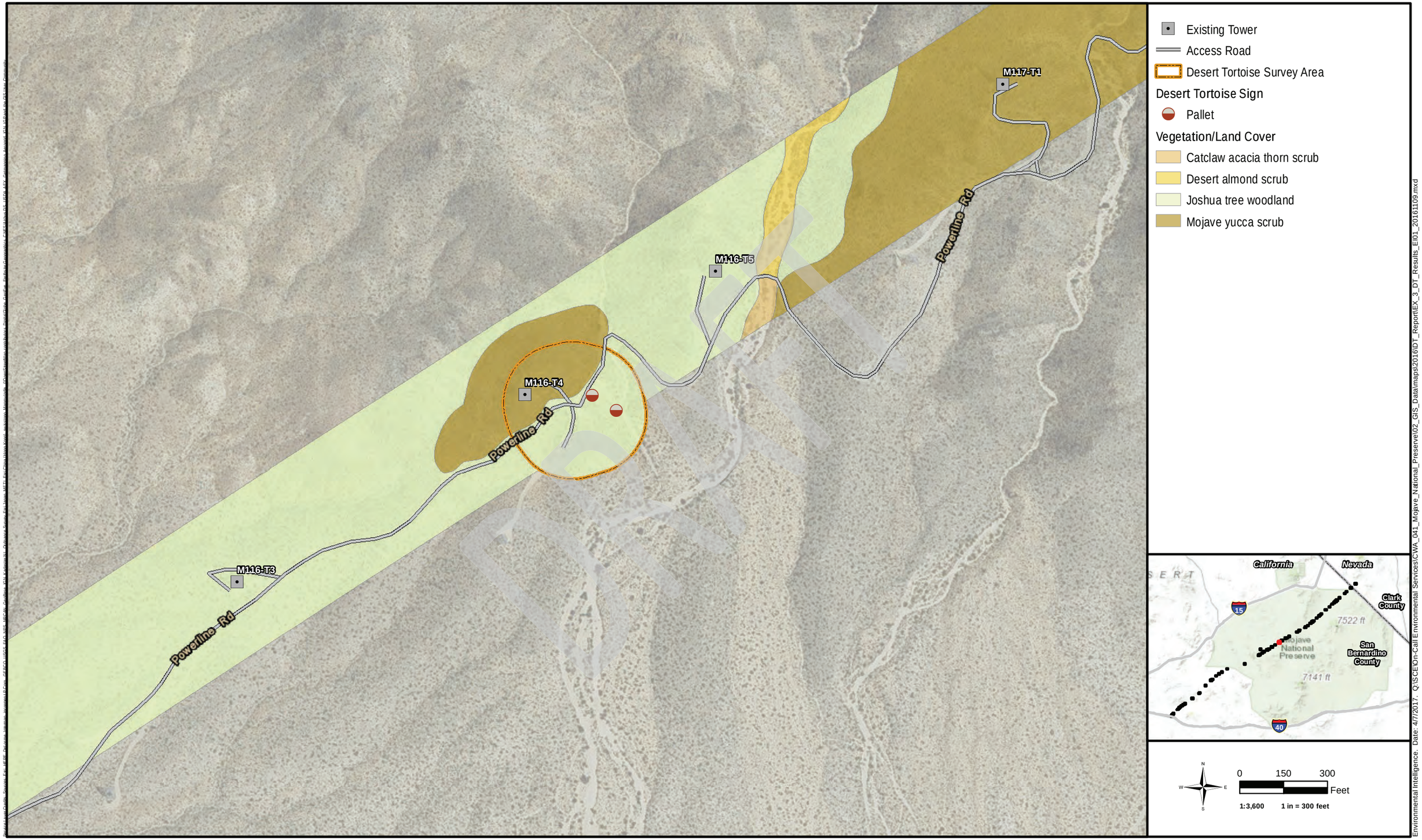

M110-T4
M110-T3
M110-T2
M110-T1
Powerline Rd
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Pallet
Scat
Vegetation/Land Cover
Creosote bush - white burr sage scrub
Joshua tree woodland
Mojave yucca scrub
Nevada joint fir scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M112-T1
M111-T6
M111-T5
M111-T4
M111-T3
Powerline Rd
Powerline Rd
Powerline Rd
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Carcass
Pallet
Vegetation/Land Cover
Joshua tree woodland
DRAFT
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M112-T4
M112-T3
M112-T2
M112-T1
Powerline Rd
Powerline Rd
Powerline Rd
Powerline Rd
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Carcass
Live Tortoise
Pallet
Vegetation/Land Cover
Creosote bush - white burr sage scrub
Joshua tree woodland
Mojave yucca scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M114-T1
Utility Rd
Utility Rd
M113-T5
Powerline Rd
Kelbaker Rd
M113-T4
Powerline Rd
M113-T3
Powerline Rd
Kelbaker Rd
Kelbaker Rd
Rd
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Carcass
Pallet
Vegetation/Land Cover
Creosote bush scrub
Developed
Joshua tree woodland
Mojave yucca scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M115-T2
M115-T1
M114-T4
Powerline Rd
Powerline Rd
Powerline Rd
Powerline Rd
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Scat
Vegetation/Land Cover
Creosote bush - white burr sage scrub
Joshua tree woodland
Mojave yucca scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd



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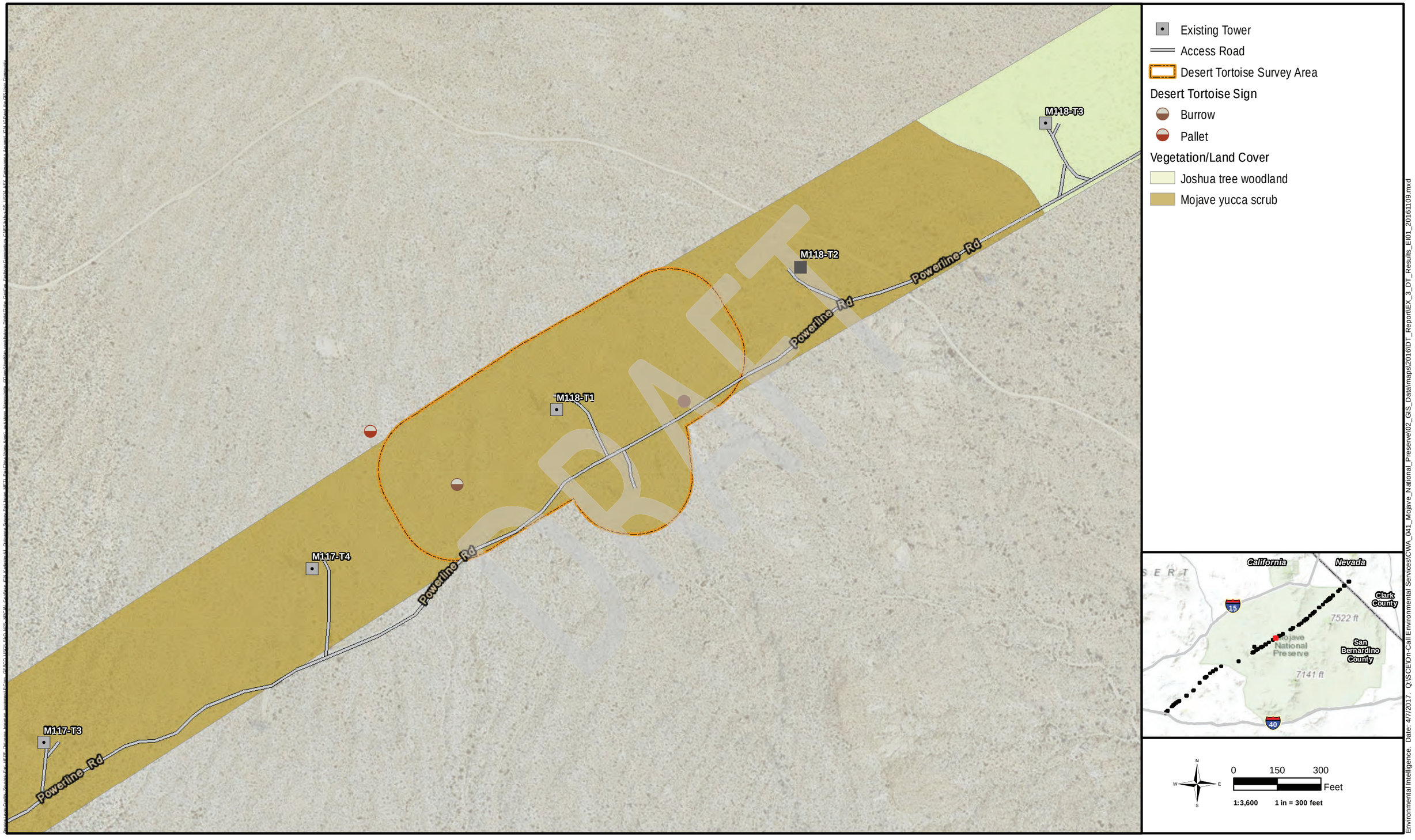
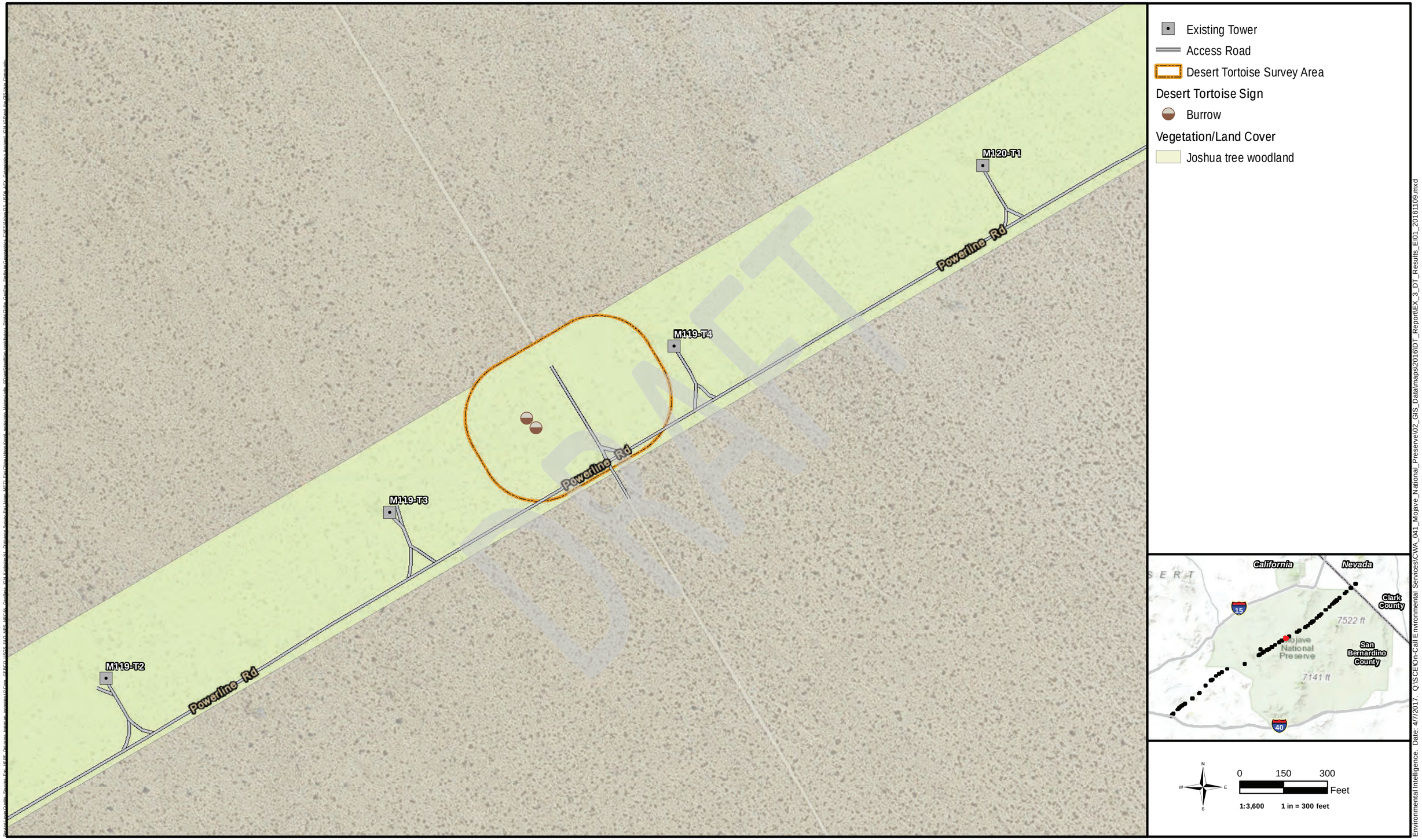
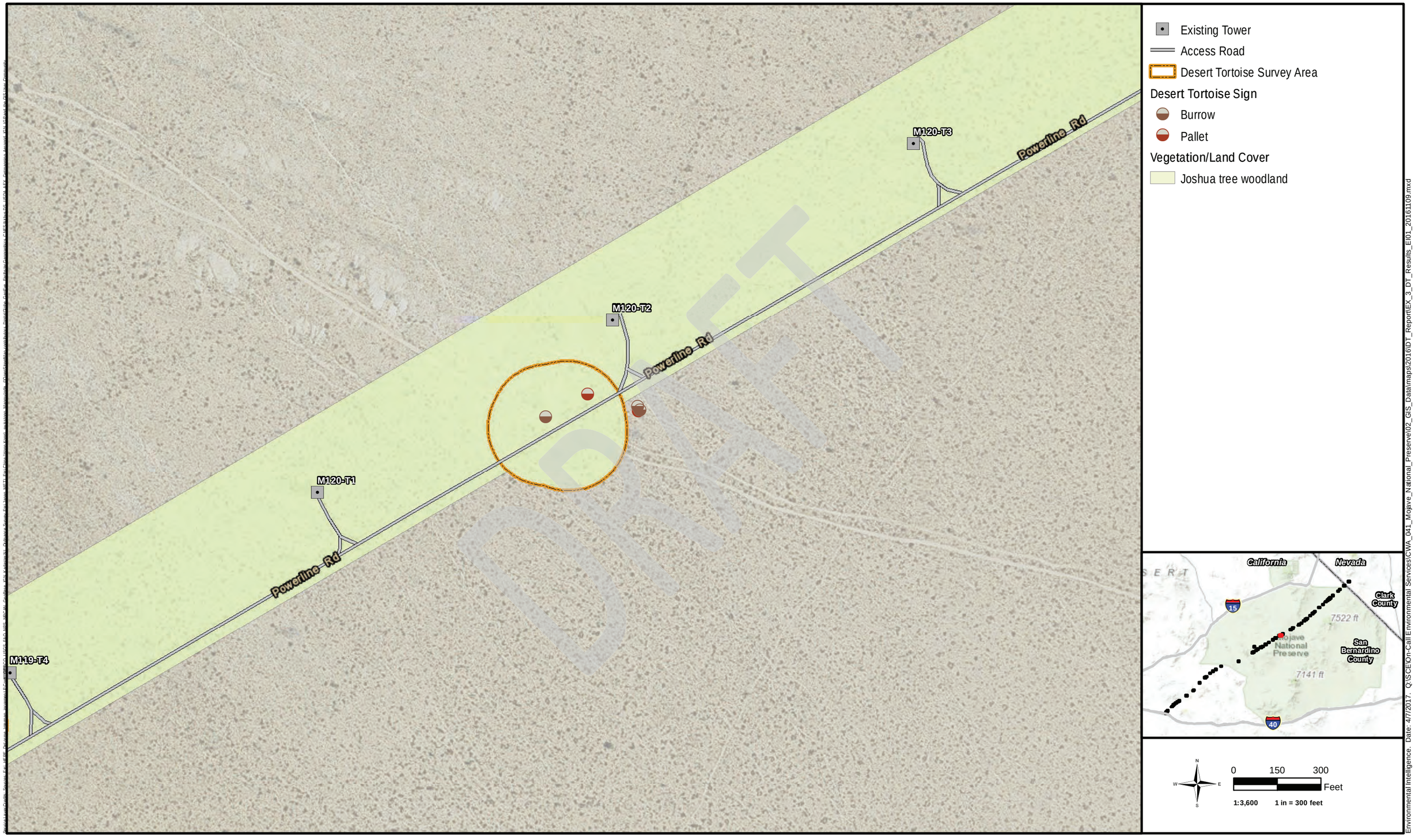
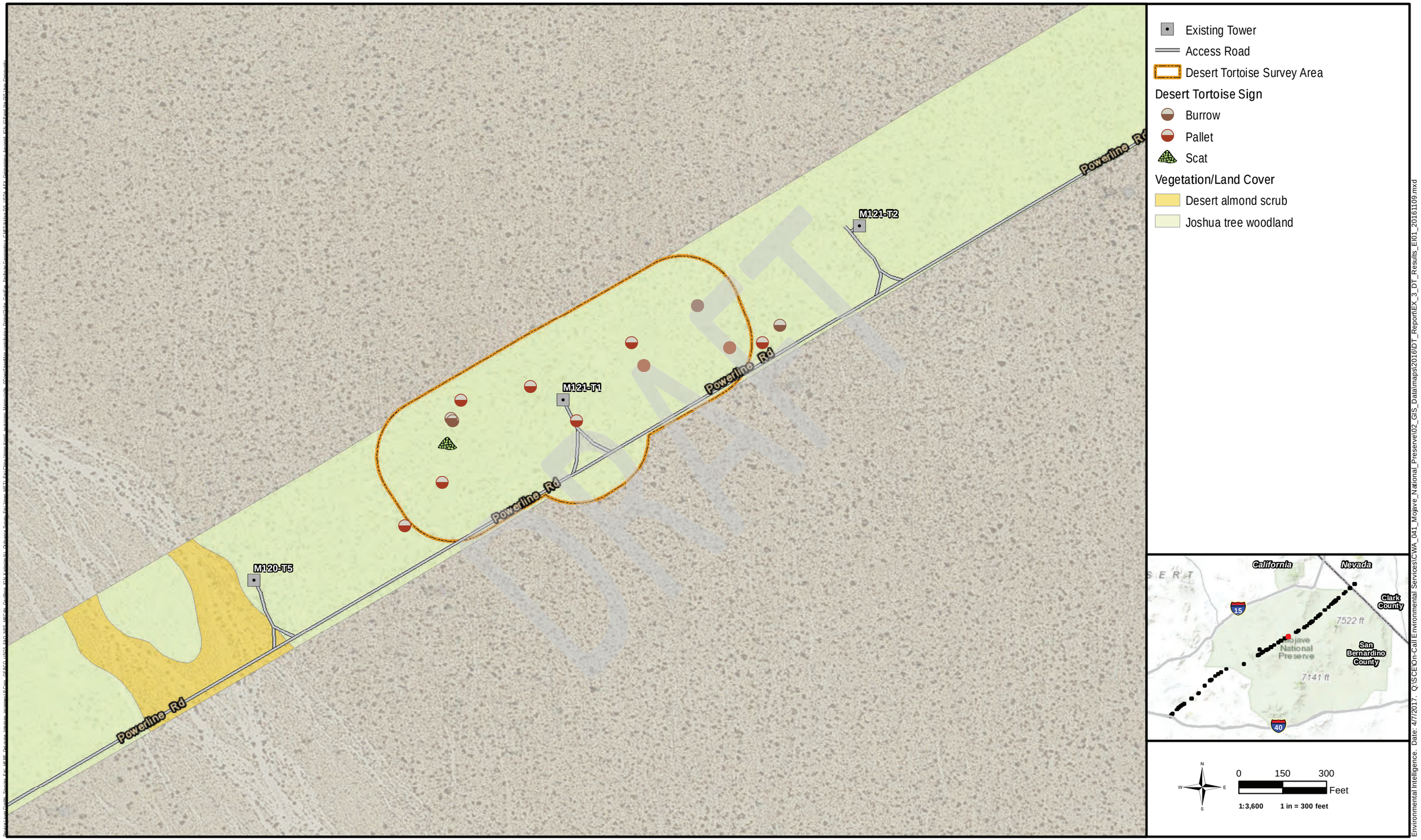

M118-T3
M118-T2
Powerline Rd
Powerline Rd
M118-T1
M117-T4
Powerline Rd
M117-T3
Powerline Rd
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Vegetation/Land Cover
Joshua tree woodland
Mojave yucca scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Vegetation/Land Cover
Joshua tree woodland
M120-T1
M119-T4
M119-T3
M119-T2
Powerline Rd
Powerline Rd
Powerline Rd
DRAFT
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_Ef01_20161109.mxd


M120-T3
M120-T2
M120-T1
M119-T4
Powerline Rd
Powerline Rd
Powerline Rd
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Vegetation/Land Cover
Joshua tree woodland
DRAFT
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M121-T2
M121-T1
M120-T5
Powerline Rd
Powerline Rd
Powerline Rd
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Scat
Vegetation/Land Cover
Desert almond scrub
Joshua tree woodland
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_Ef01_20161109.mxd


Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Vegetation/Land Cover
Bladder sage scrub
Joshua tree woodland
M124-T4
M124-T3
M124-T2
M124-T1
Powerline Rd
Powerline Rd
Powerline Rd
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd

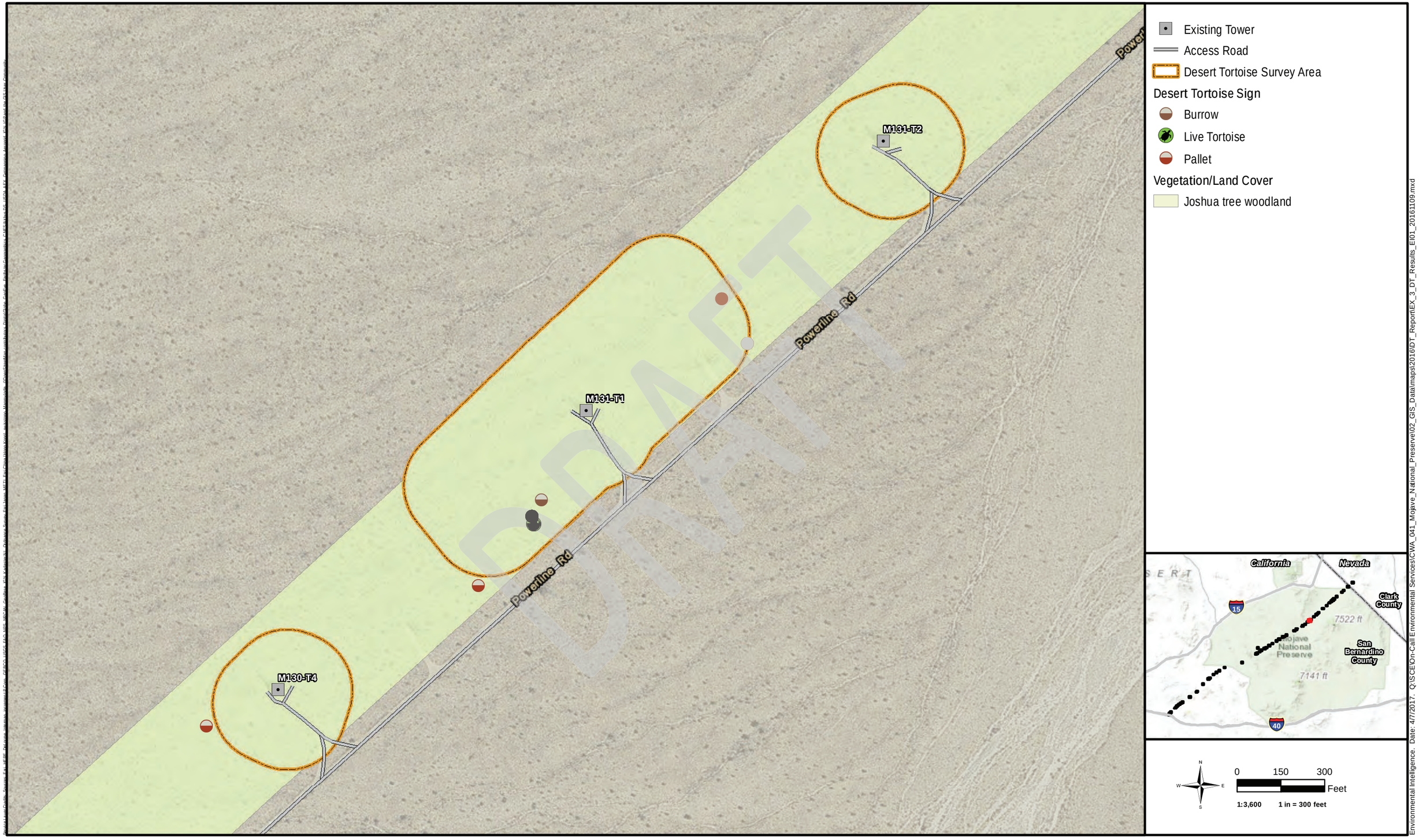
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call\Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd

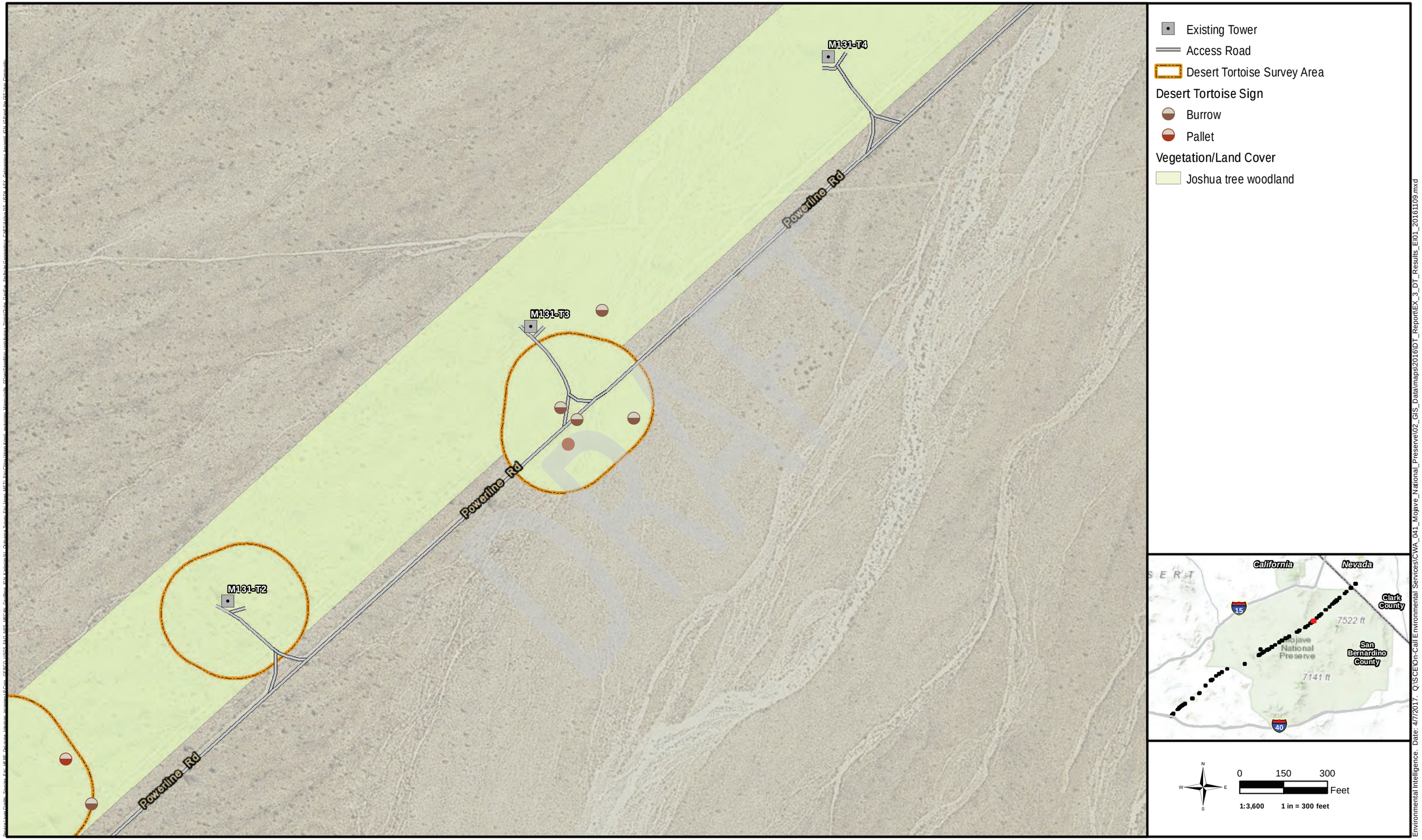

Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Vegetation/Land Cover
Developed
Joshua tree woodland
M128-T2
M128-T1
M127-T6
M127-T5
M127-T4
Cima Rd
Powerline Rd
Western Rd
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
S
E
W
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd

Exhibit 3. Desert Tortoise Survey Area and Results Page 38 of 56

LVRAS Project | San Bernardino County, CA and Clark County, NV

Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd

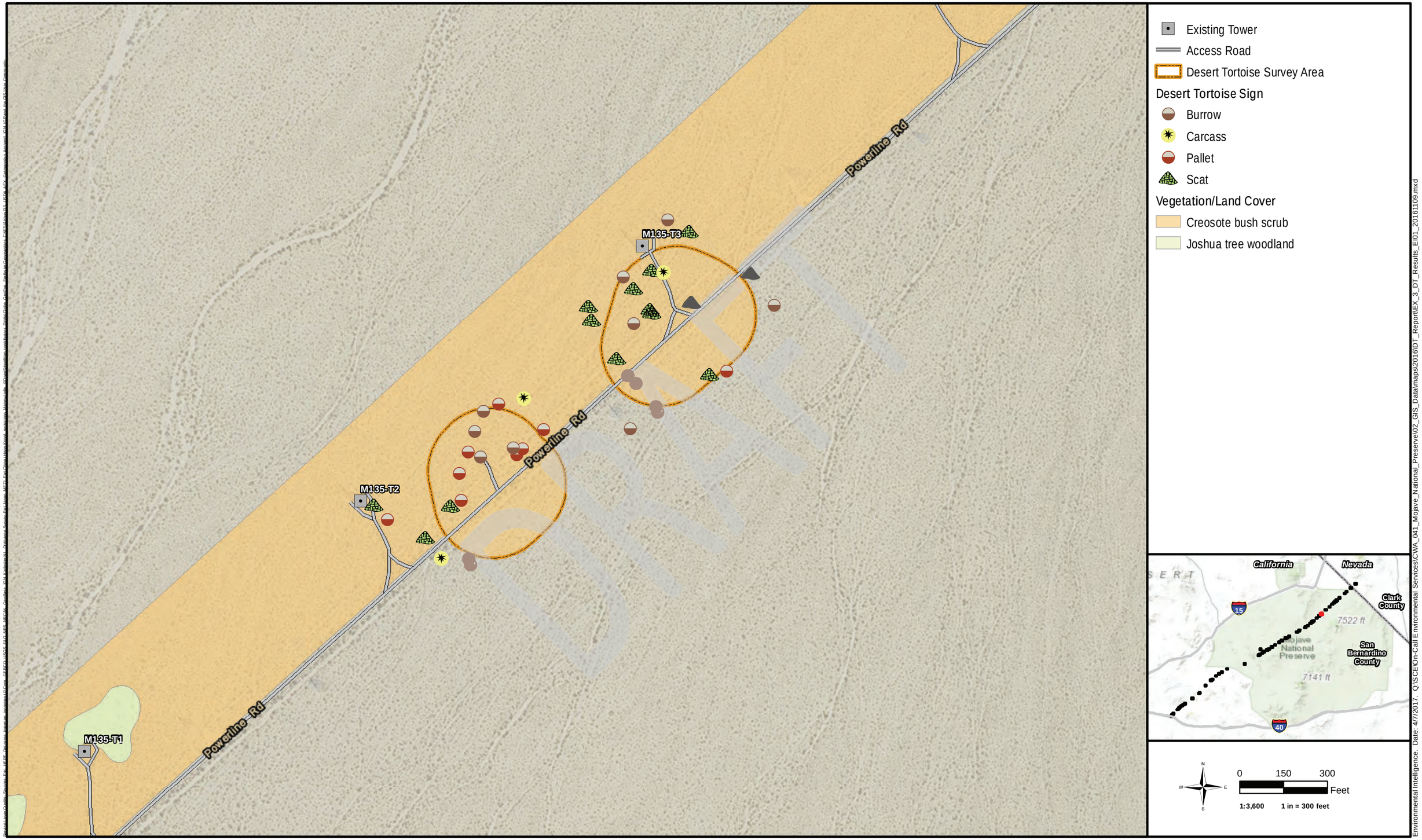

M131-T2
M131-T1
M130-T4
Powerline Rd
Powerline Rd
Powerline Rd
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Live Tortoise
Pallet
Vegetation/Land Cover
Joshua tree woodland
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M131-T4
M131-T3
M131-T2
Powerline Rd
Powerline Rd
Powerline Rd
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Pallet
Vegetation/Land Cover
Joshua tree woodland
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd

Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_Ef01_20161109.mxd

Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


M135-T1
M134-T4
M134-T3
Powerline Rd
Powerline Rd
Powerline Rd
Powerline Rd
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Carcass
Live Tortoise
Pallet
Scat
Vegetation/Land Cover
Catclaw acacia thorn scrub
Creosote bush scrub
Joshua tree woodland
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd



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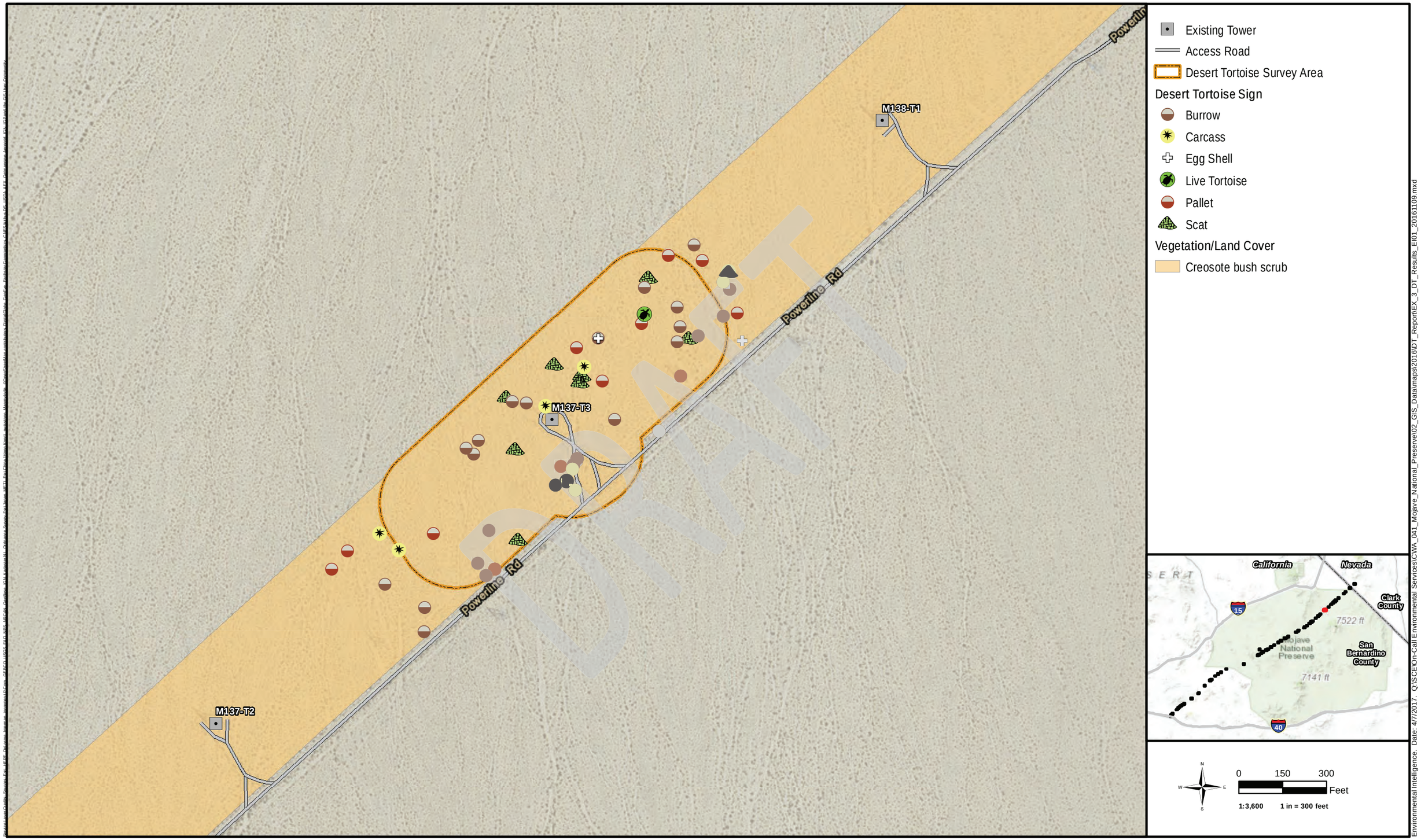
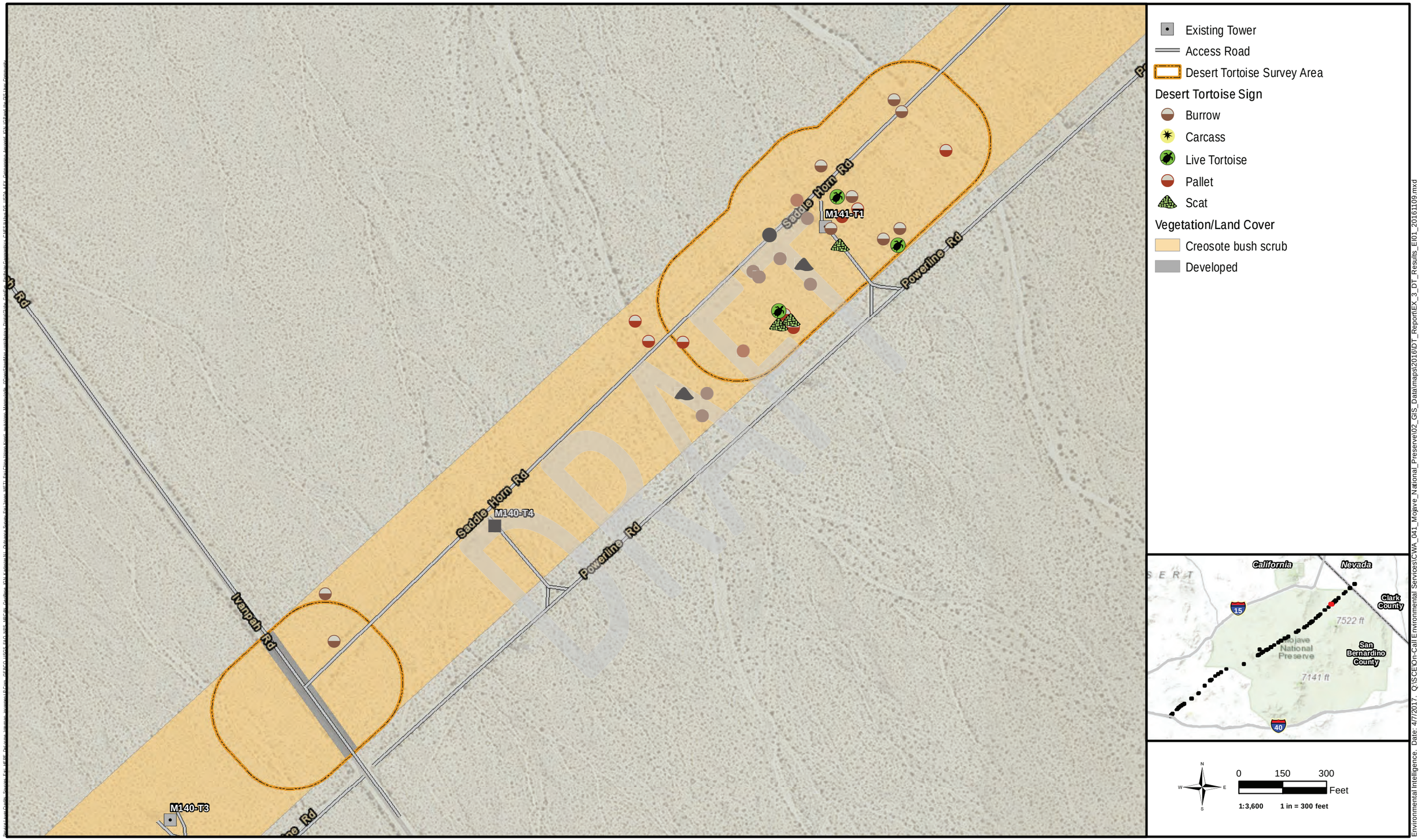

M138-T1
M137-T3
M137-T2
Powerline Rd
Powerline Rd
Powerline Rd
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Carcass
Egg Shell
Live Tortoise
Pallet
Scat
Vegetation/Land Cover
Creosote bush scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
DRAFT
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_Ef01_20161109.mxd


M139-T3
M139-T2
M139-T1
Powerline Rd
Powerline Rd
Powerline Rd
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Live Tortoise
Pallet
Scat
Vegetation/Land Cover
Creosote bush scrub
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
W
E
S
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd


Saddle Horn Rd
Powerline Rd
Ivanpah Rd
M141-T1
M140-T4
M140-T3
Existing Tower
Access Road
Desert Tortoise Survey Area
Desert Tortoise Sign
Burrow
Carcass
Live Tortoise
Pallet
Scat
Vegetation/Land Cover
Creosote bush scrub
Developed
California
Nevada
Clark County
San Bernardino County
Mojave National Preserve
7522 ft
7141 ft
15
40
N
S
E
W
0
150
300
Feet
1:3,600
1 in = 300 feet
Environmental Intelligence. Date: 4/7/2017. Q:\SCE\On-Call Environmental Services\CWA_041_Mojave_National_Preserve\02_GIS_Data\maps\2016\DT_Report\EX_3_DT_Results_EI01_20161109.mxd