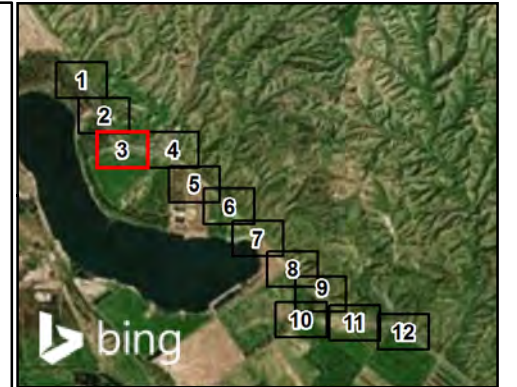
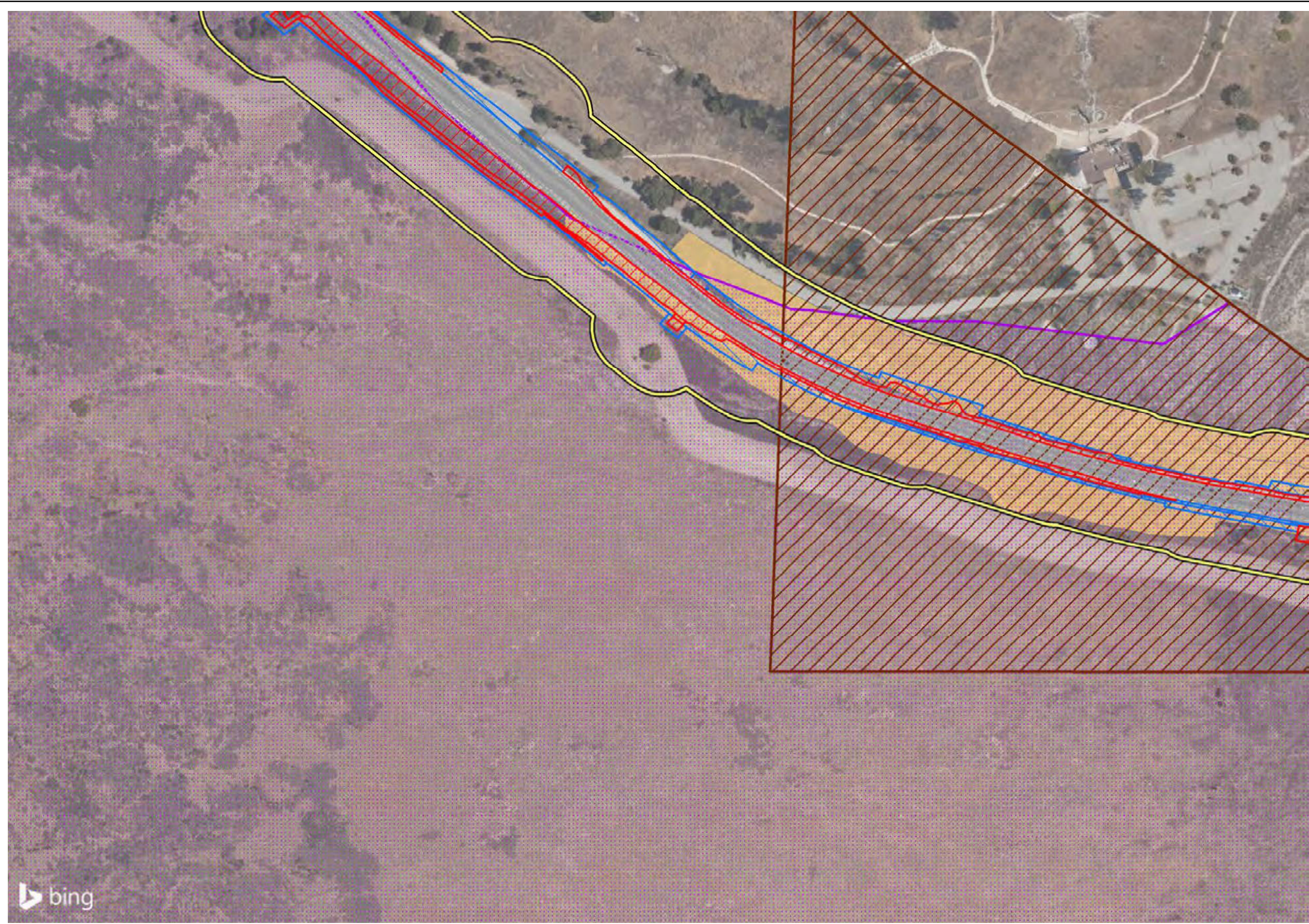


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Legend

- Study Area (100-ft Buffer)
- Bridge Street Study Area (100-ft Buffer)
- Permanent Impacts
- Temporary Impacts
- Roadway
- Special Status Plants Suitable Habitat

Survey Areas

- Narrow Endemic Plants Survey Area
- Criteria Area Plant Survey Area

Survey Results

- Smooth Tarplant (Total of 254 Individual Plants)
- Smooth Tarplant (Total of 100 Individuals)

Source: RCTD (2021); ESRI (2017)

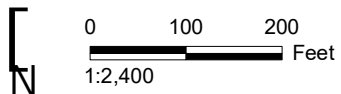
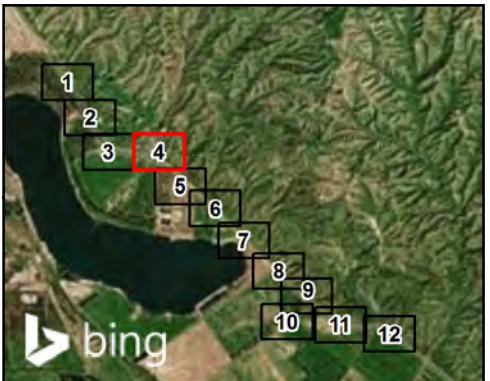
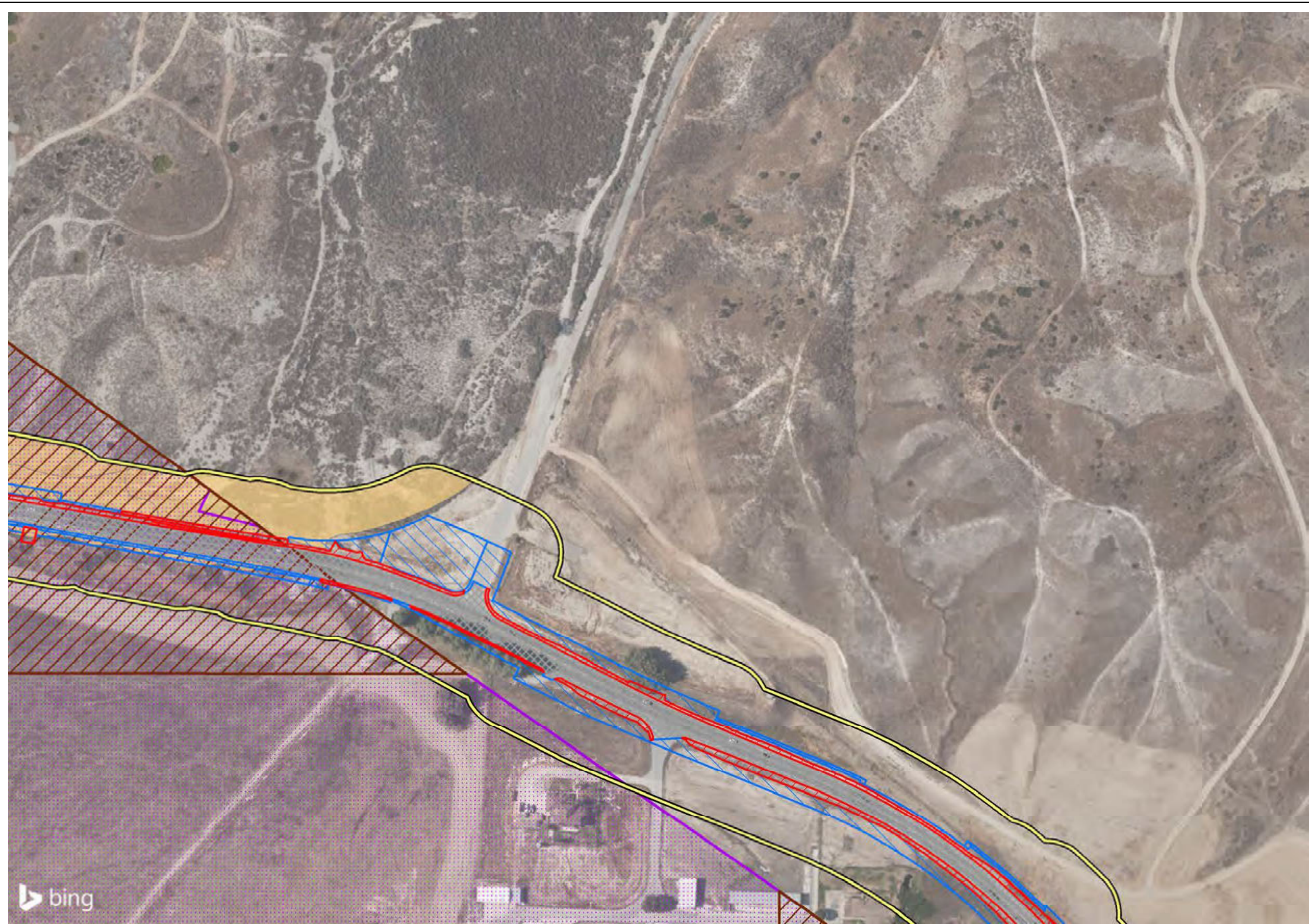


Figure 8 - Sheet 3
Rare Plant Surveys and Results
Gilman Springs Median and Shoulder Improvements Project

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- Legend**
- Study Area (100-ft Buffer)
 - Bridge Street Study Area (100-ft Buffer)
 - Permanent Impacts
 - Temporary Impacts
 - Roadway
 - Special Status Plants Suitable Habitat
- Survey Areas**
- Narrow Endemic Plants Survey Area
 - Criteria Area Plant Survey Area
- Survey Results**
- Smooth Tarplant (Total of 254 Individual Plants)
 - Smooth Tarplant (Total of 100 Individuals)

Source: RCTD (2021); ESRI (2017)

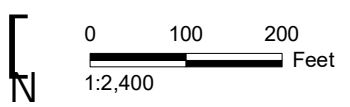
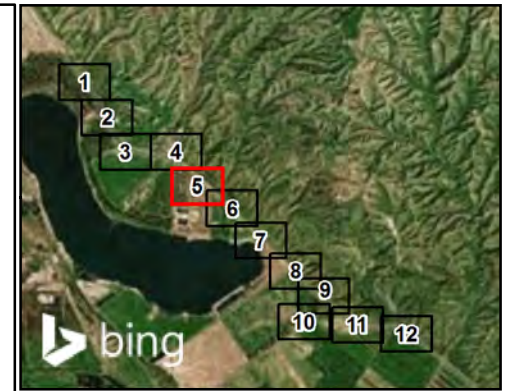
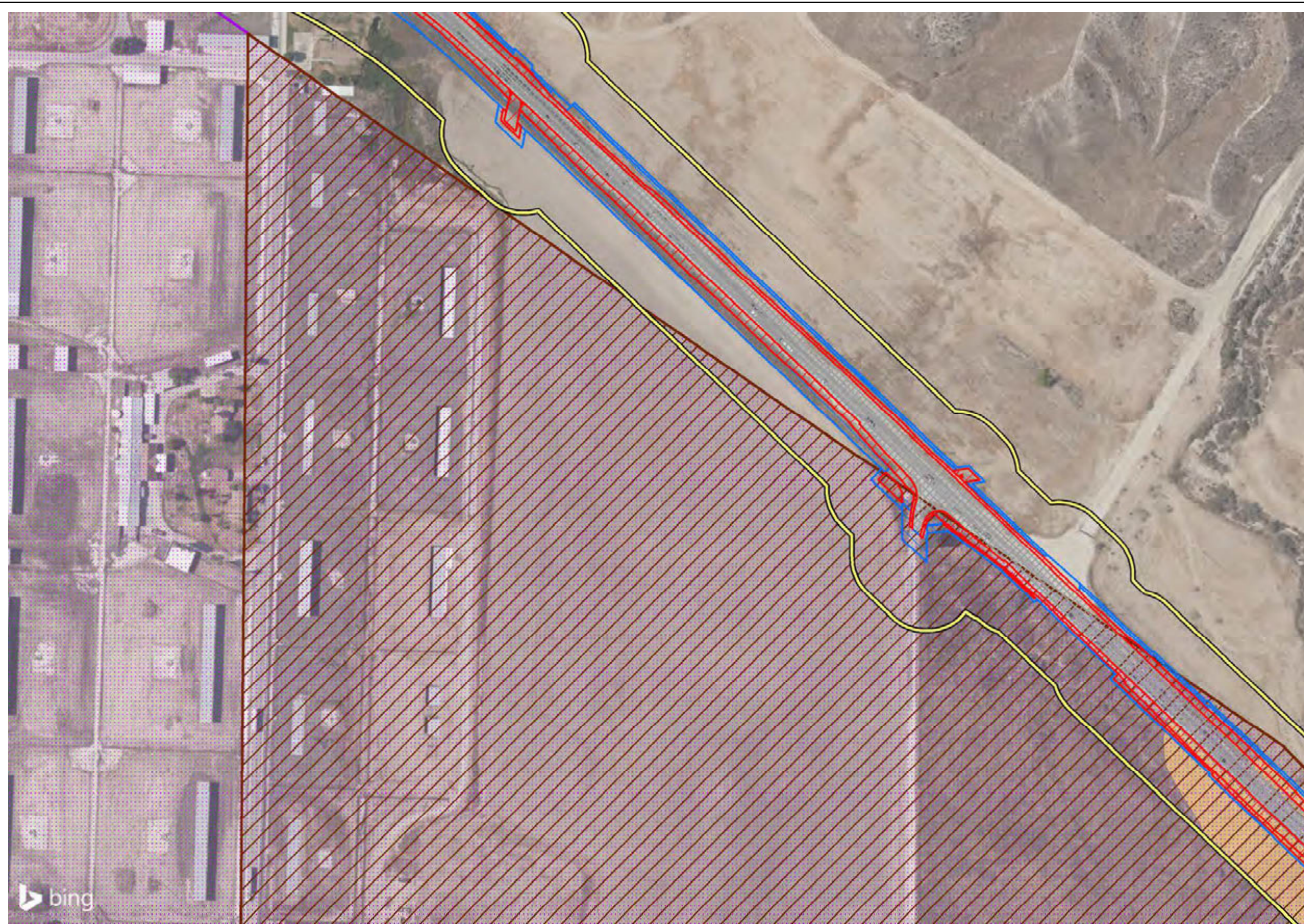


Figure 8 - Sheet 4
Rare Plant Surveys and Results
Gilman Springs Median and Shoulder Improvements Project

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- Legend**
- Study Area (100-ft Buffer)
 - Bridge Street Study Area (100-ft Buffer)
 - Permanent Impacts
 - Temporary Impacts
 - Roadway
 - Special Status Plants Suitable Habitat
- Survey Areas**
- Narrow Endemic Plants Survey Area
 - Criteria Area Plant Survey Area
- Survey Results**
- Smooth Tarplant (Total of 254 Individual Plants)
 - Smooth Tarplant (Total of 100 Individuals)

Source: RCTD (2021); ESRI (2017)

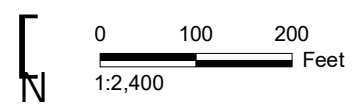
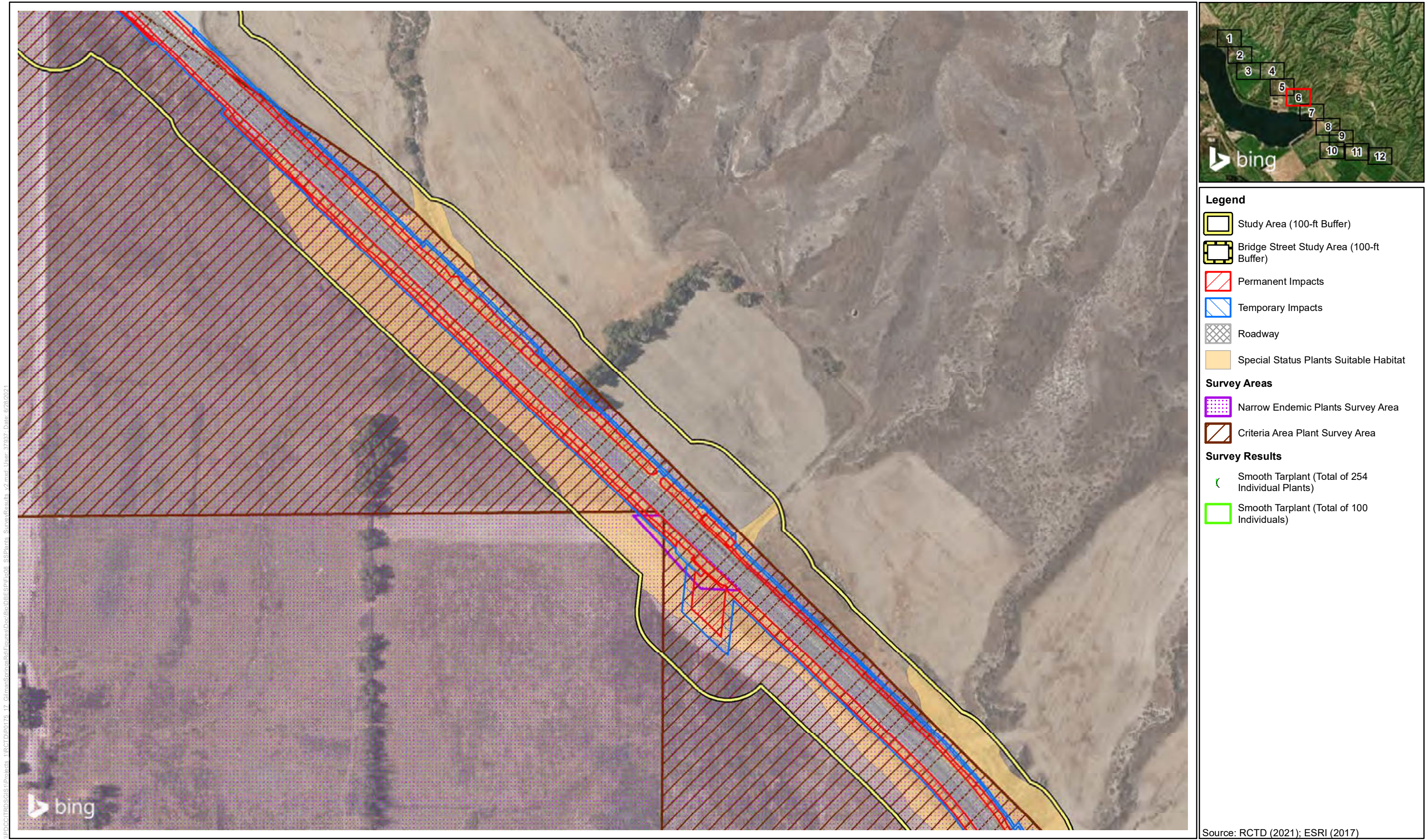


Figure 8 - Sheet 5
Rare Plant Surveys and Results
Gilman Springs Median and Shoulder Improvements Project



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Source: RCTD (2021); ESRI (2017)

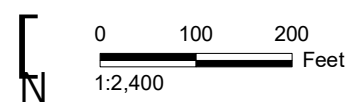
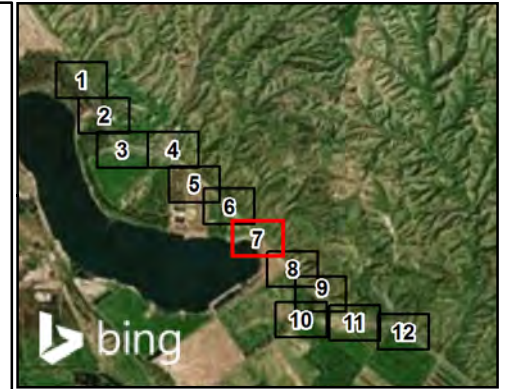
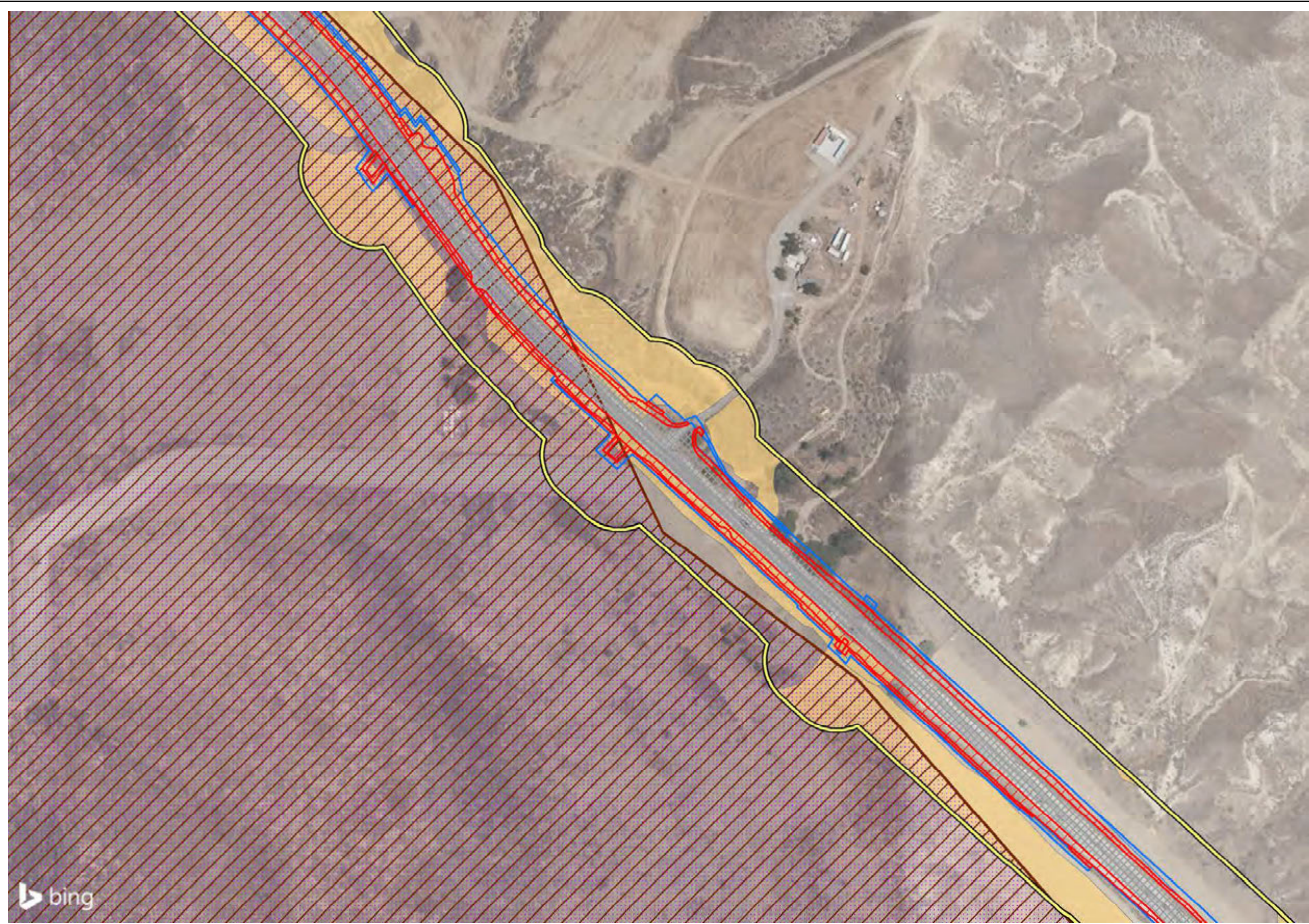


Figure 8 - Sheet 6
Rare Plant Surveys and Results
Gilman Springs Median and Shoulder Improvements Project

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Legend

- Study Area (100-ft Buffer)
- Bridge Street Study Area (100-ft Buffer)
- Permanent Impacts
- Temporary Impacts
- Roadway
- Special Status Plants Suitable Habitat

Survey Areas

- Narrow Endemic Plants Survey Area
- Criteria Area Plant Survey Area

Survey Results

- Smooth Tarplant (Total of 254 Individual Plants)
- Smooth Tarplant (Total of 100 Individuals)

Source: RCTD (2021); ESRI (2017)

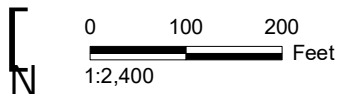
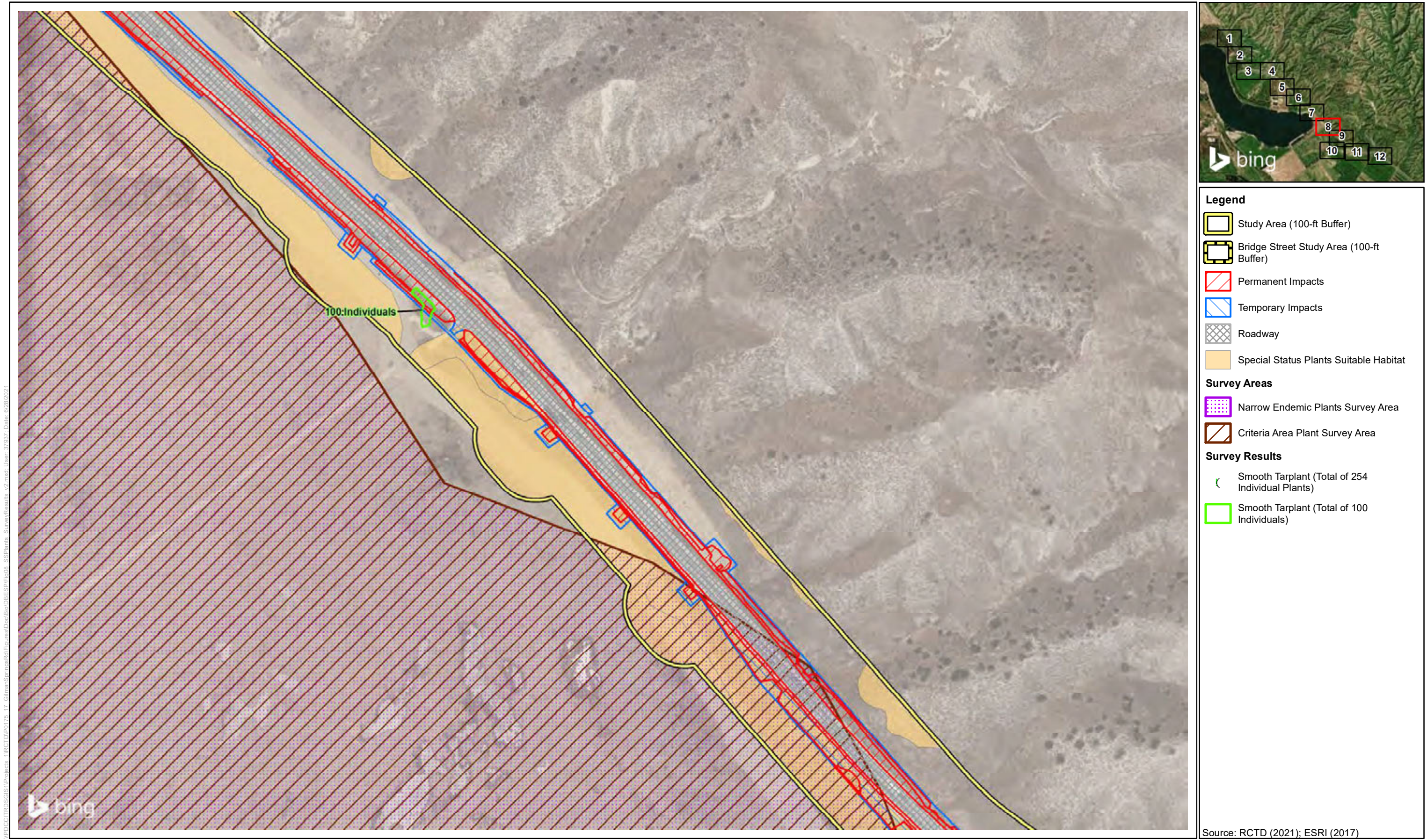


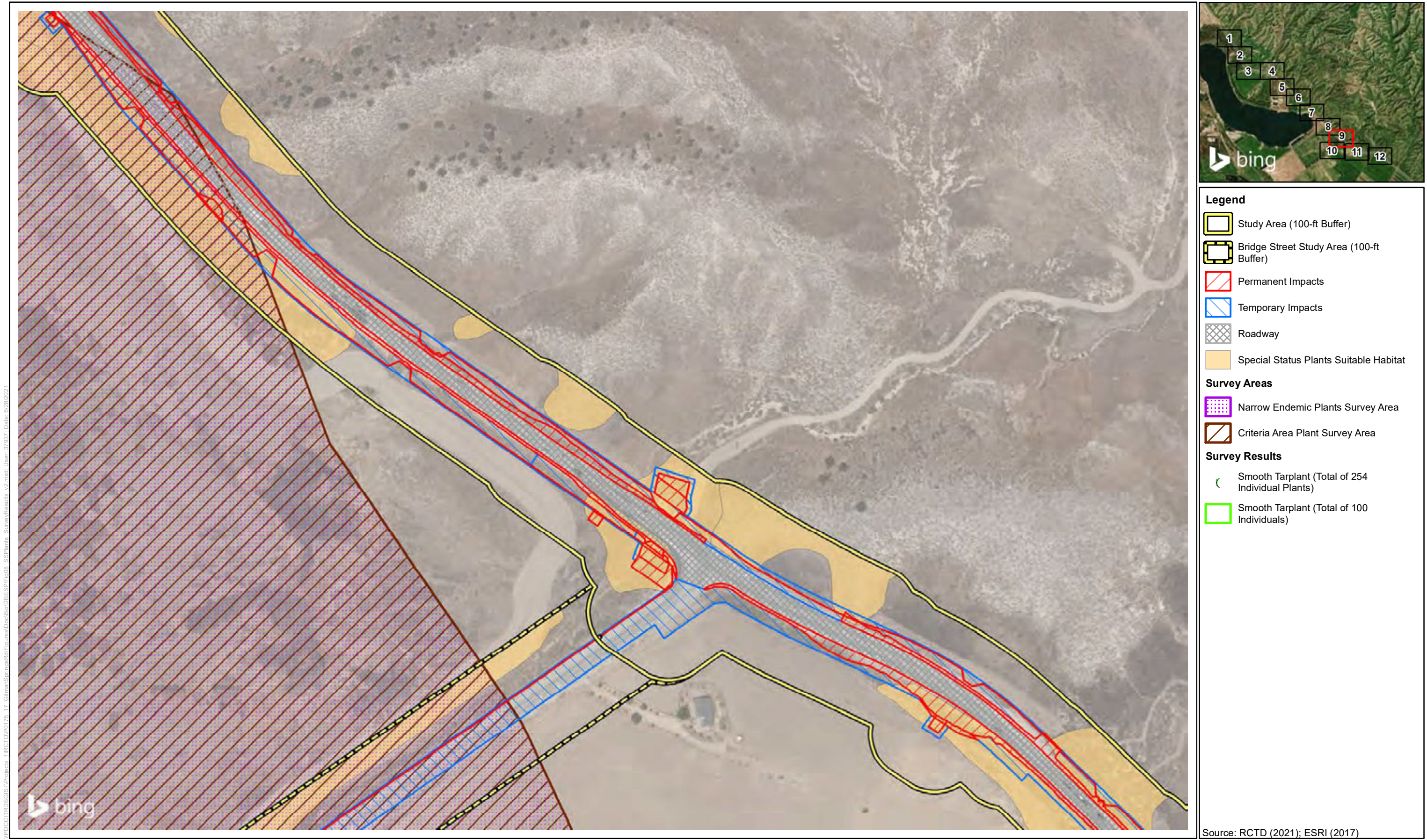
Figure 8 - Sheet 7
Rare Plant Surveys and Results
Gilman Springs Median and Shoulder Improvements Project



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Source: RCTD (2021); ESRI (2017)

Figure 8 - Sheet 8
Rare Plant Surveys and Results
Gilman Springs Median and Shoulder Improvements Project



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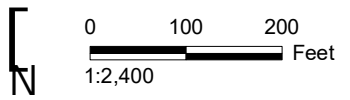
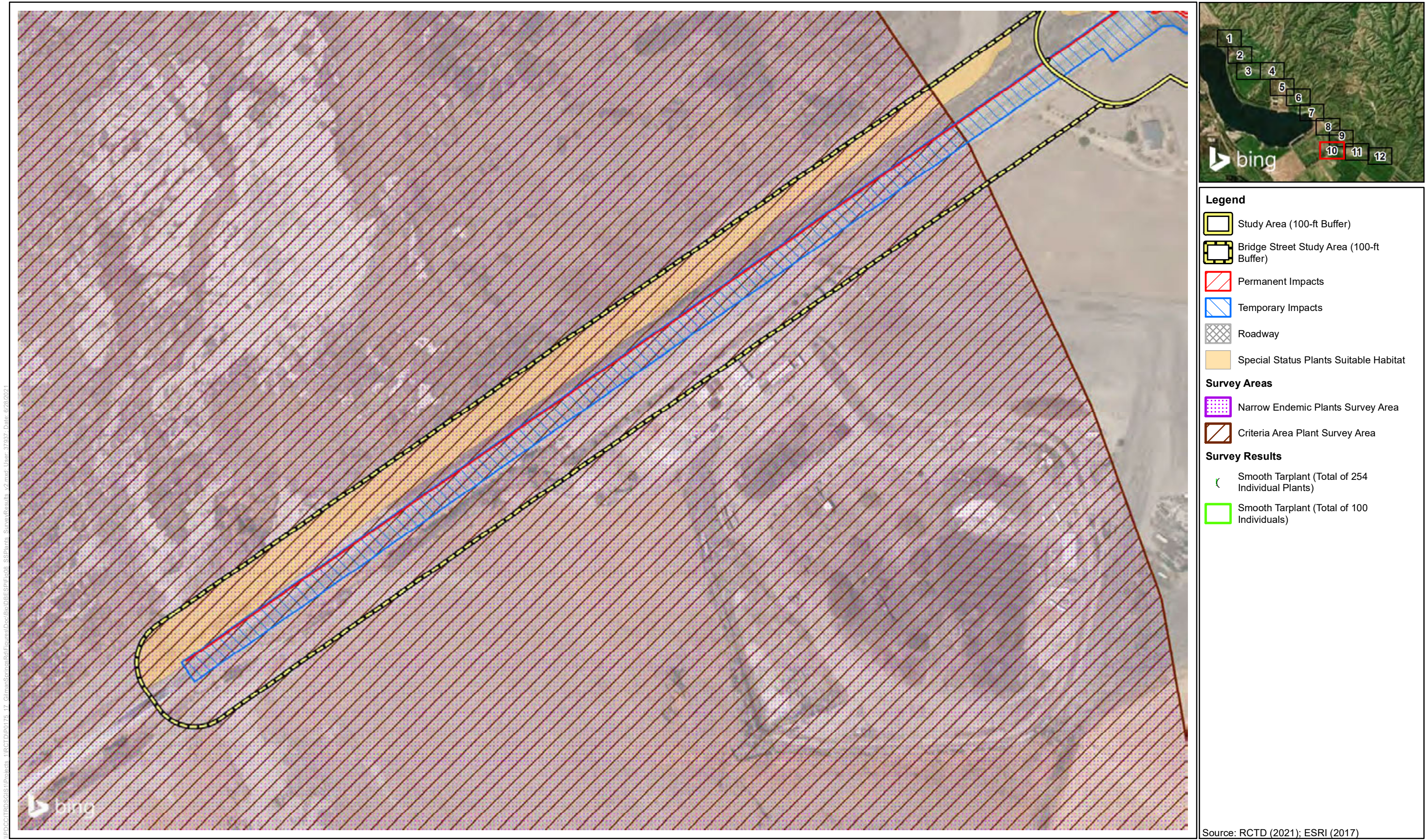


Figure 8 - Sheet 9
Rare Plant Surveys and Results
Gilman Springs Median and Shoulder Improvements Project

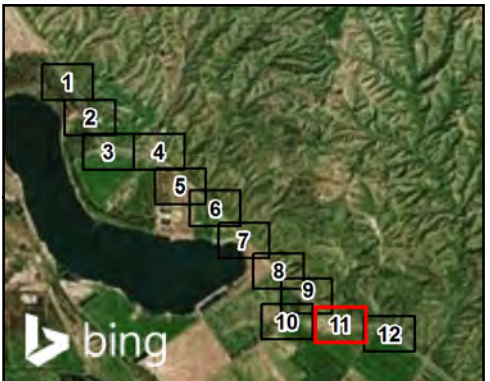
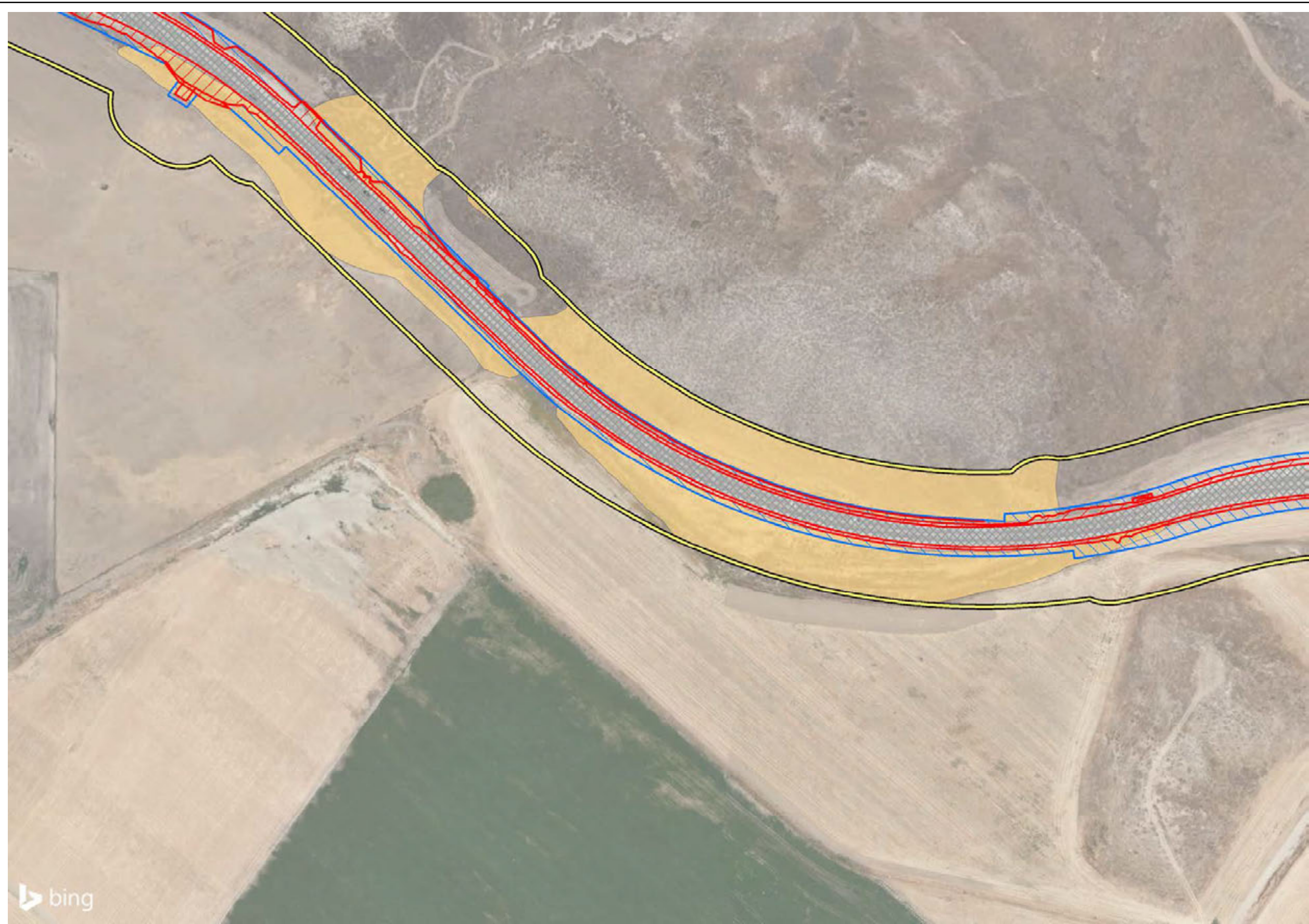


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Source: RCTD (2021); ESRI (2017)

Figure 8 - Sheet 10
Rare Plant Surveys and Results
Gilman Springs Median and Shoulder Improvements Project

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Legend

- Study Area (100-ft Buffer)
- Bridge Street Study Area (100-ft Buffer)
- Permanent Impacts
- Temporary Impacts
- Roadway
- Special Status Plants Suitable Habitat

Survey Areas

- Narrow Endemic Plants Survey Area
- Criteria Area Plant Survey Area

Survey Results

- Smooth Tarplant (Total of 254 Individual Plants)
- Smooth Tarplant (Total of 100 Individuals)

Source: RCTD (2021); ESRI (2017)

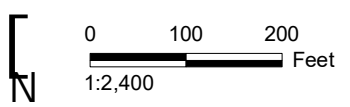
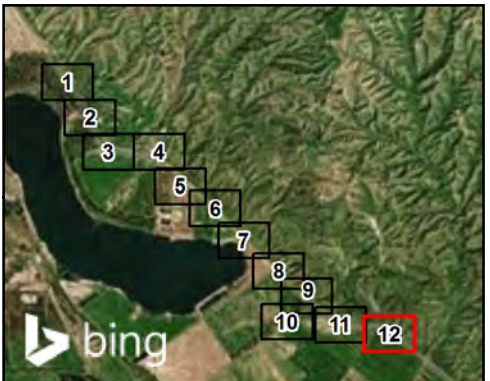
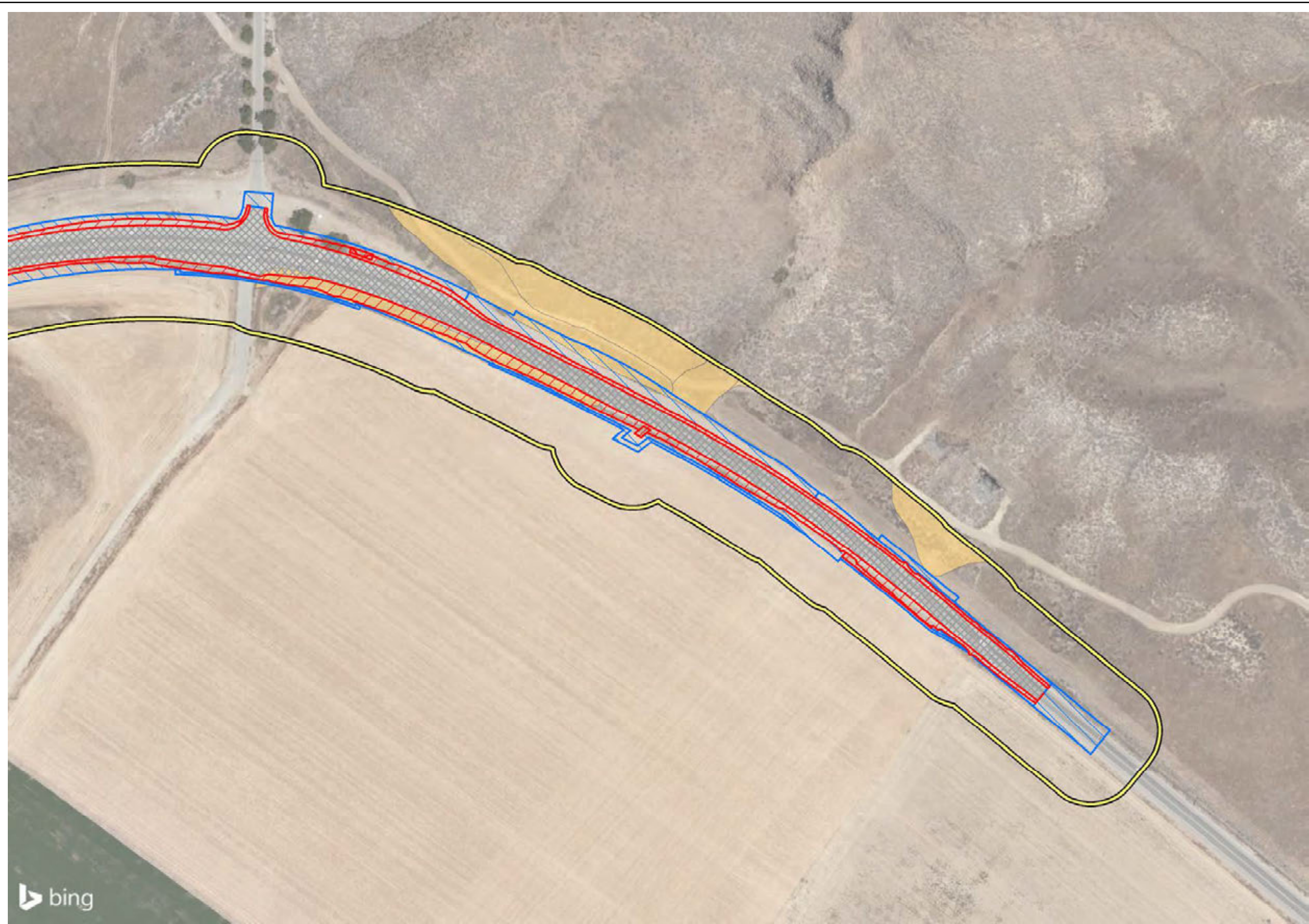


Figure 8 - Sheet 11
Rare Plant Surveys and Results
Gilman Springs Median and Shoulder Improvements Project

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Legend

- Study Area (100-ft Buffer)
- Bridge Street Study Area (100-ft Buffer)
- Permanent Impacts
- Temporary Impacts
- Roadway
- Special Status Plants Suitable Habitat

Survey Areas

- Narrow Endemic Plants Survey Area
- Criteria Area Plant Survey Area

Survey Results

- Smooth Tarplant (Total of 254 Individual Plants)
- Smooth Tarplant (Total of 100 Individuals)

Source: RCTD (2021); ESRI (2017)

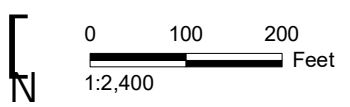
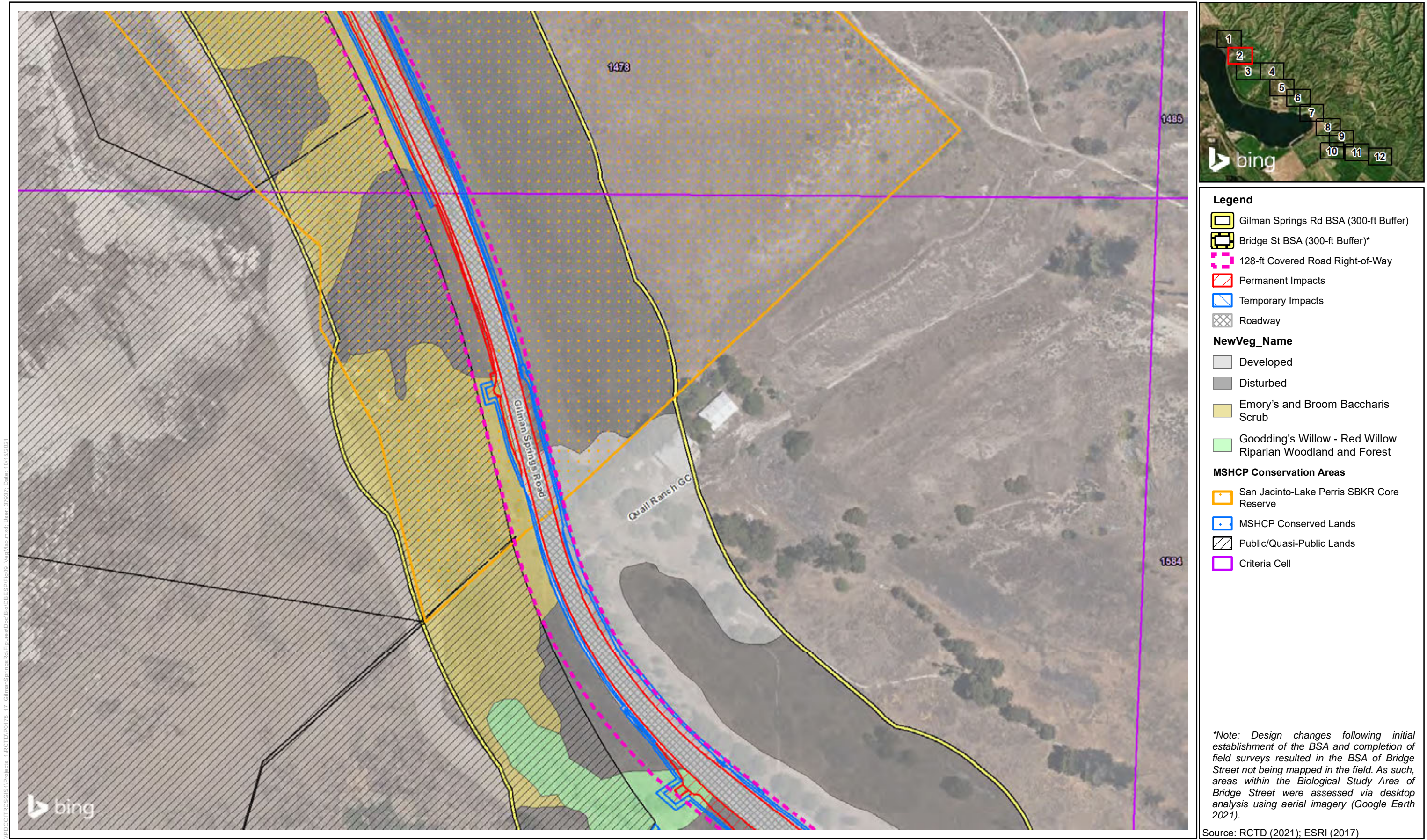


Figure 8 - Sheet 12
Rare Plant Surveys and Results
Gilman Springs Median and Shoulder Improvements Project



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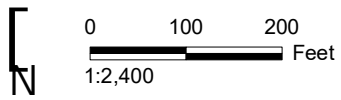
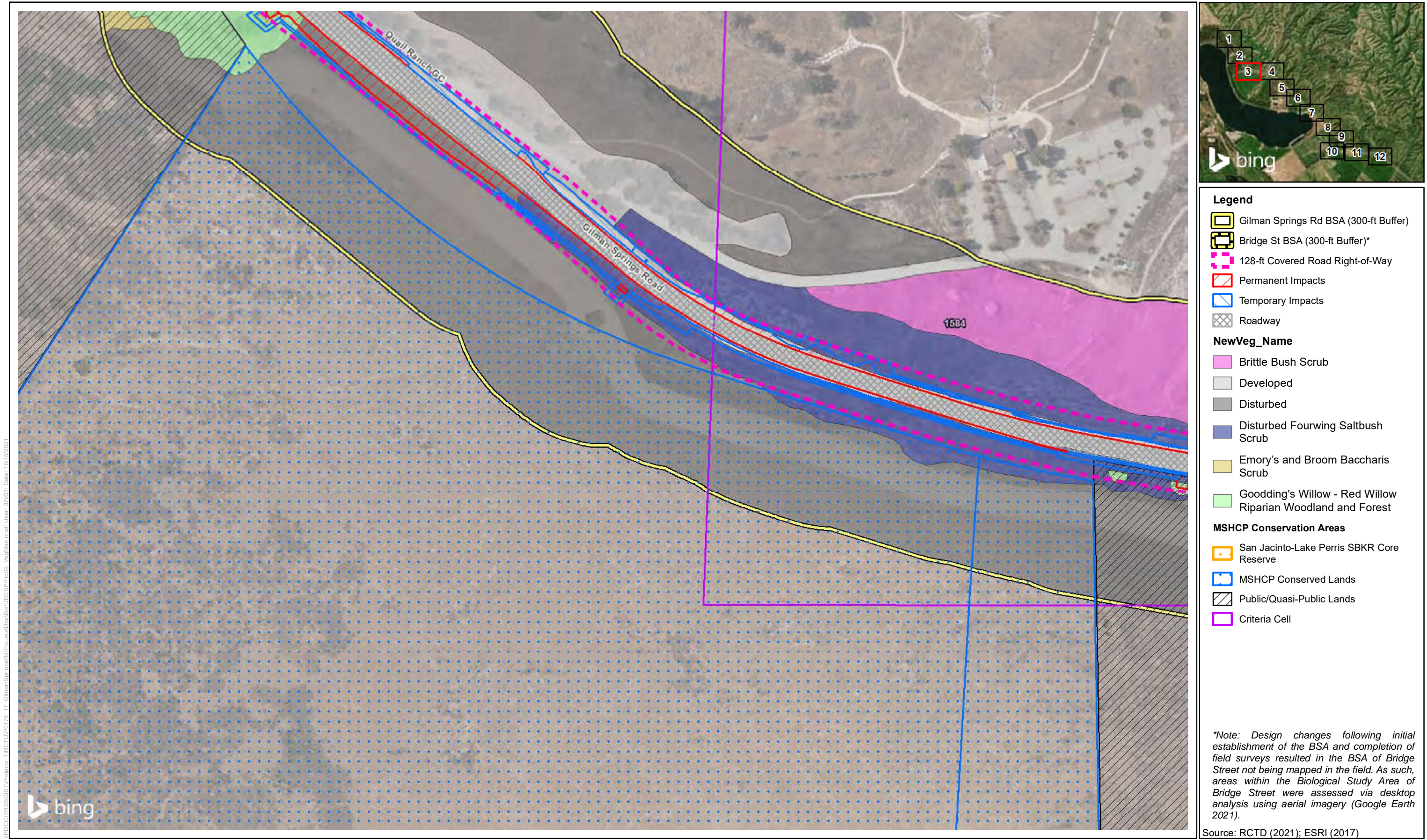


Figure 9 - Sheet 2
Vegetation Communities and Impacts
Gilman Springs Median and Shoulder Improvements Project



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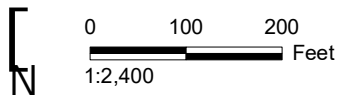
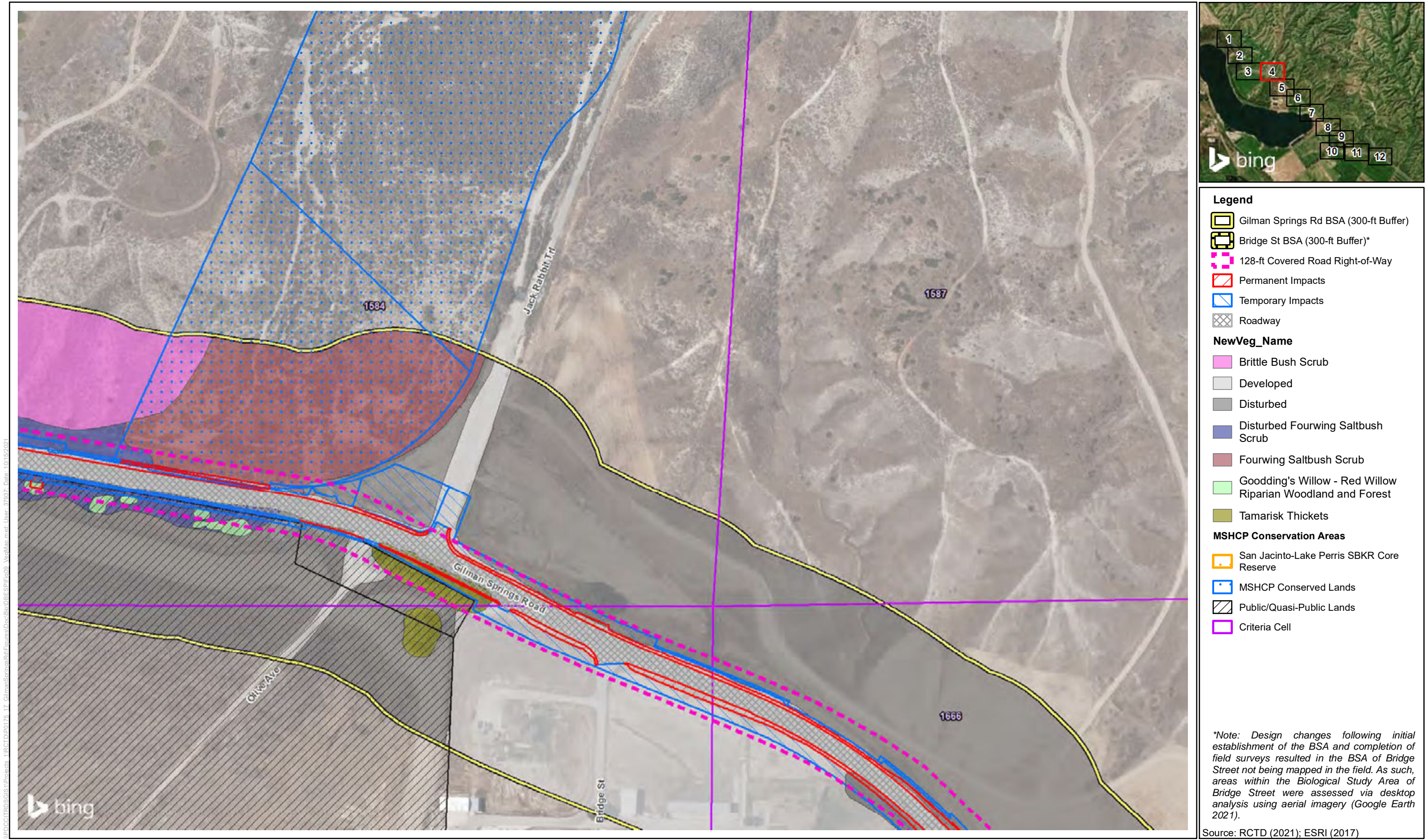


Figure 9 - Sheet 3
Vegetation Communities and Impacts
Gilman Springs Median and Shoulder Improvements Project



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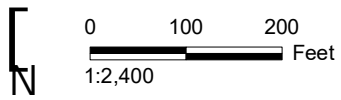
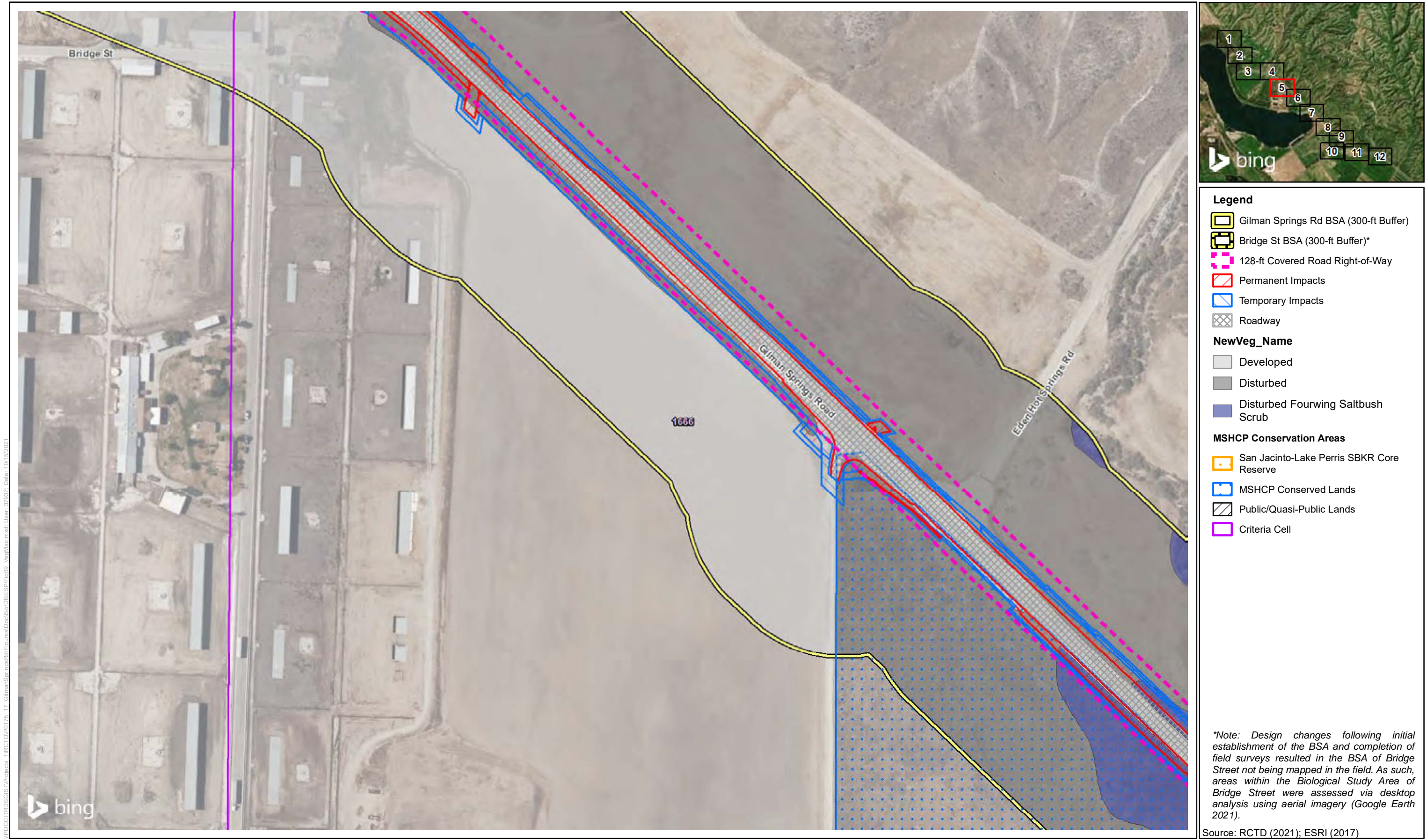


Figure 9 - Sheet 4
Vegetation Communities and Impacts
Gilman Springs Median and Shoulder Improvements Project



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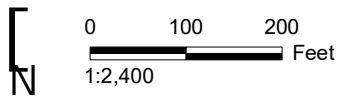
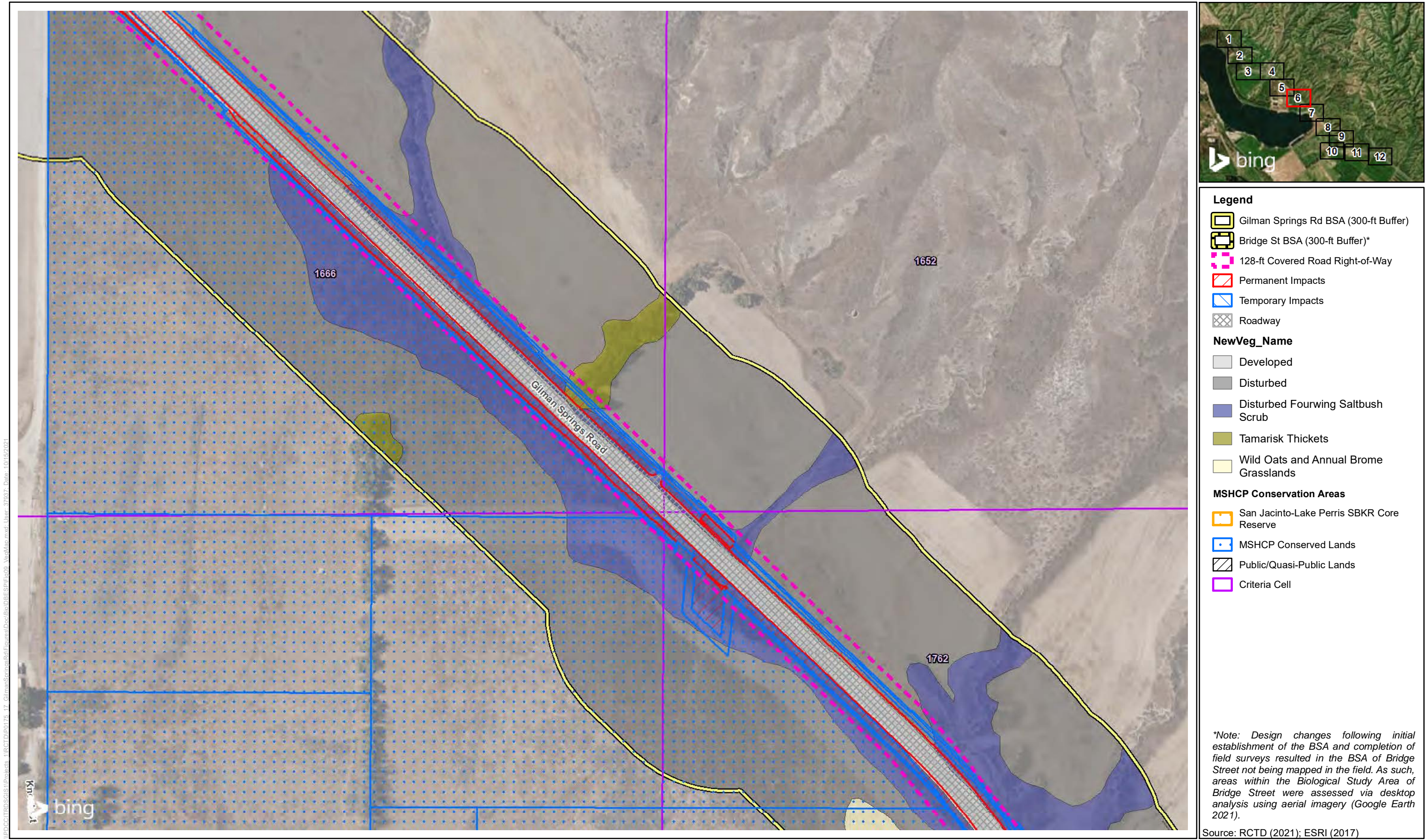


Figure 9 - Sheet 5
Vegetation Communities and Impacts
Gilman Springs Median and Shoulder Improvements Project



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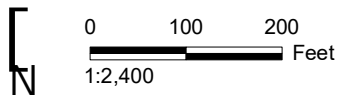
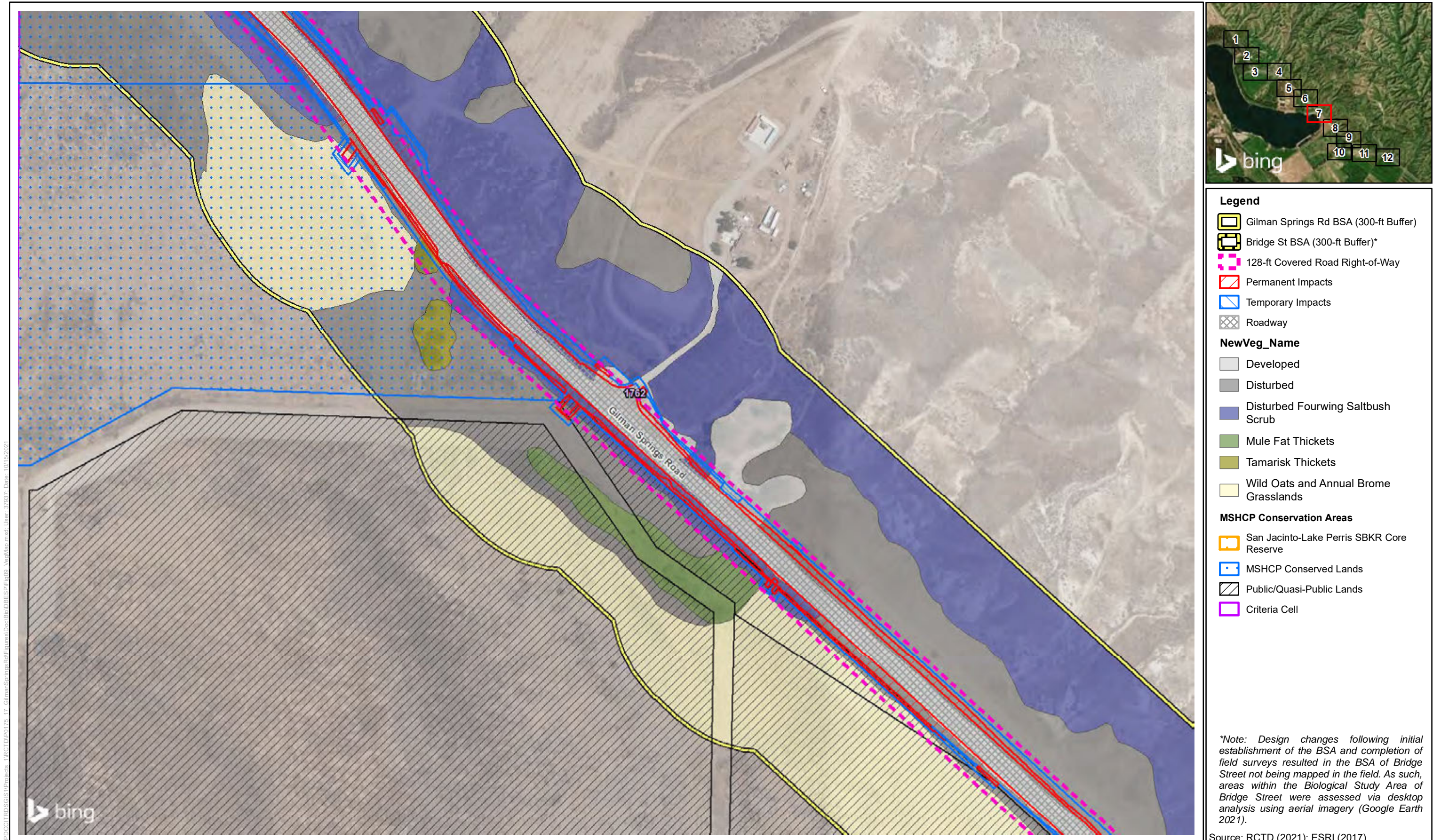


Figure 9 - Sheet 6
Vegetation Communities and Impacts
Gilman Springs Median and Shoulder Improvements Project



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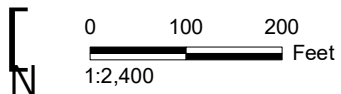


Figure 9 - Sheet 7
Vegetation Communities and Impacts
Gilman Springs Median and Shoulder Improvements Project



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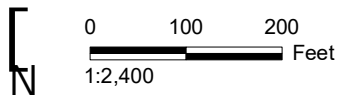
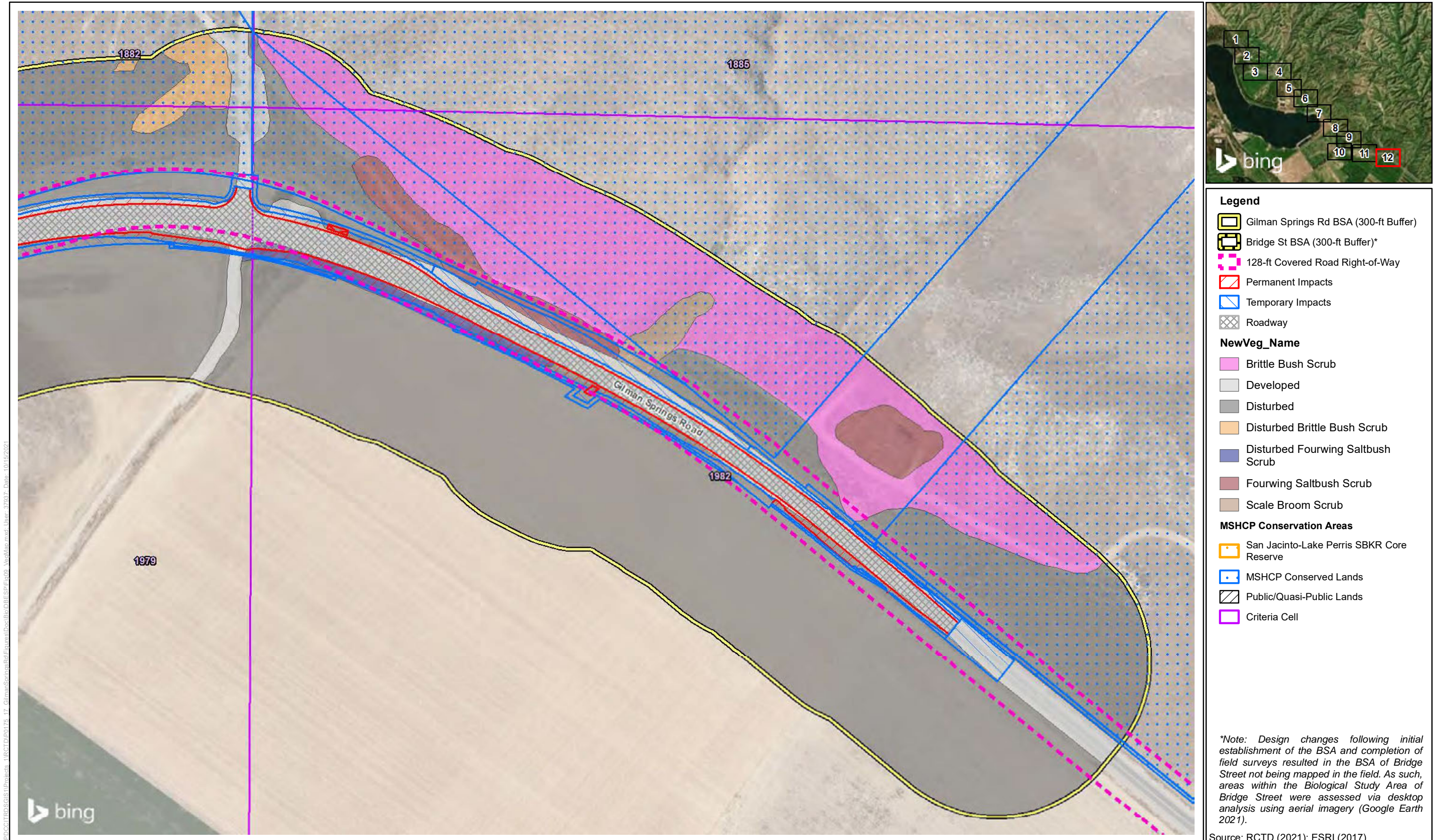


Figure 9 - Sheet 11
Vegetation Communities and Impacts
Gilman Springs Median and Shoulder Improvements Project



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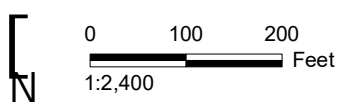


Figure 9 - Sheet 12
Vegetation Communities and Impacts
Gilman Springs Median and Shoulder Improvements Project

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Legend

- Study Area (100-ft Buffer)
- Bridge Street Study Area (100-ft Buffer)
- Permanent Impacts
- Temporary Impacts
- Roadway
- Culvert
- Non-MSHCP Features
- Riparian
- Riverine

ft = Riverine Width

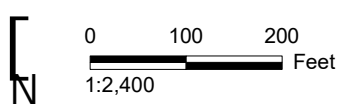
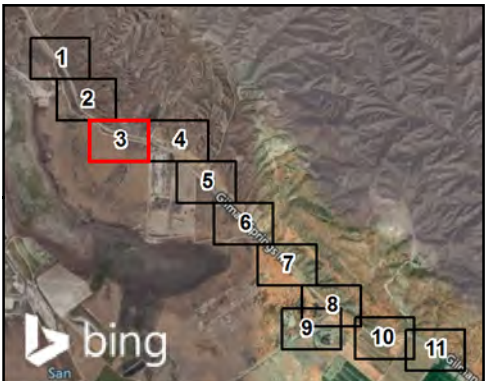
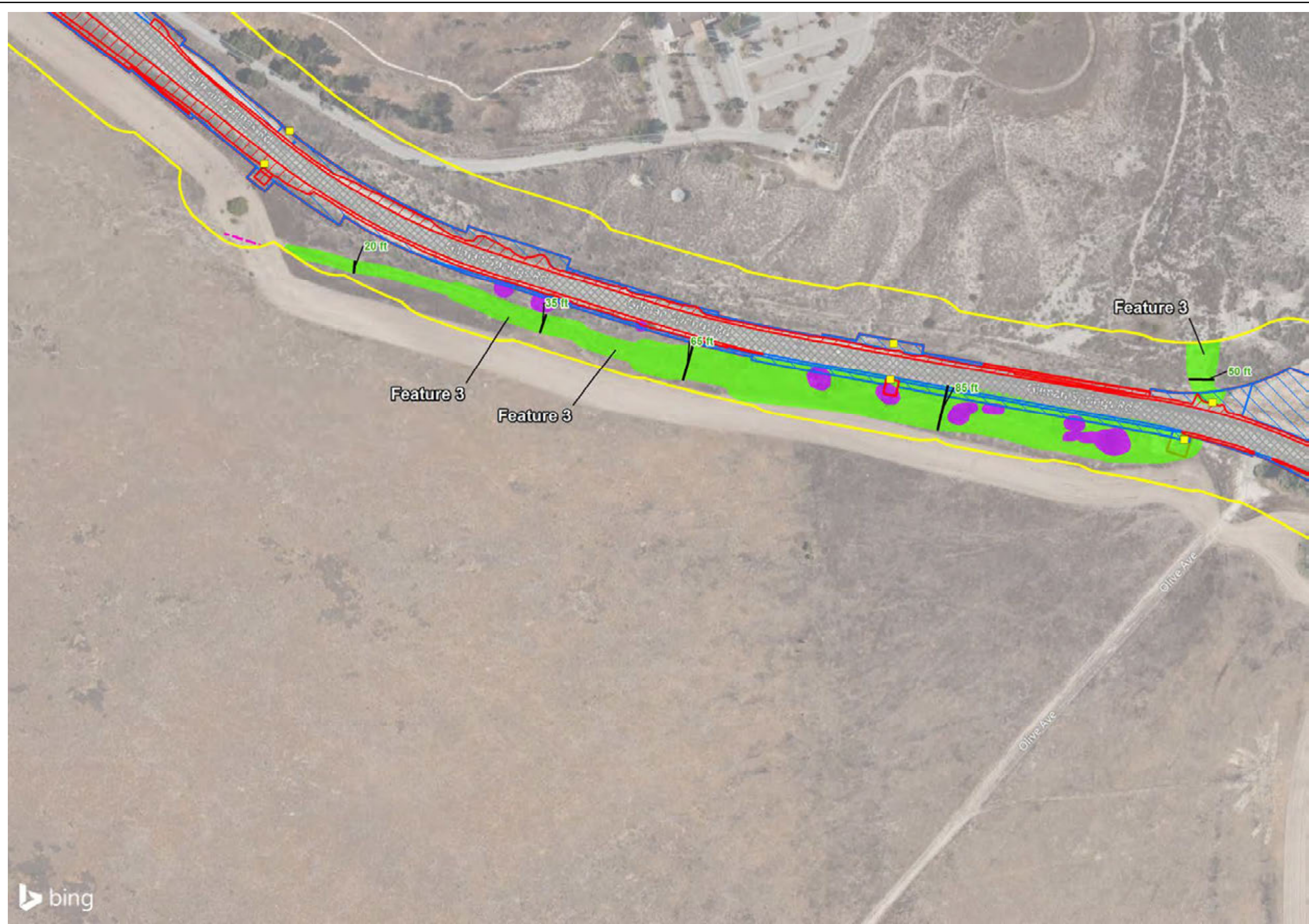


Figure 10 - Sheet 1
Riparian/Riverine Resources
Gilman Springs Median and Shoulder Improvements Project

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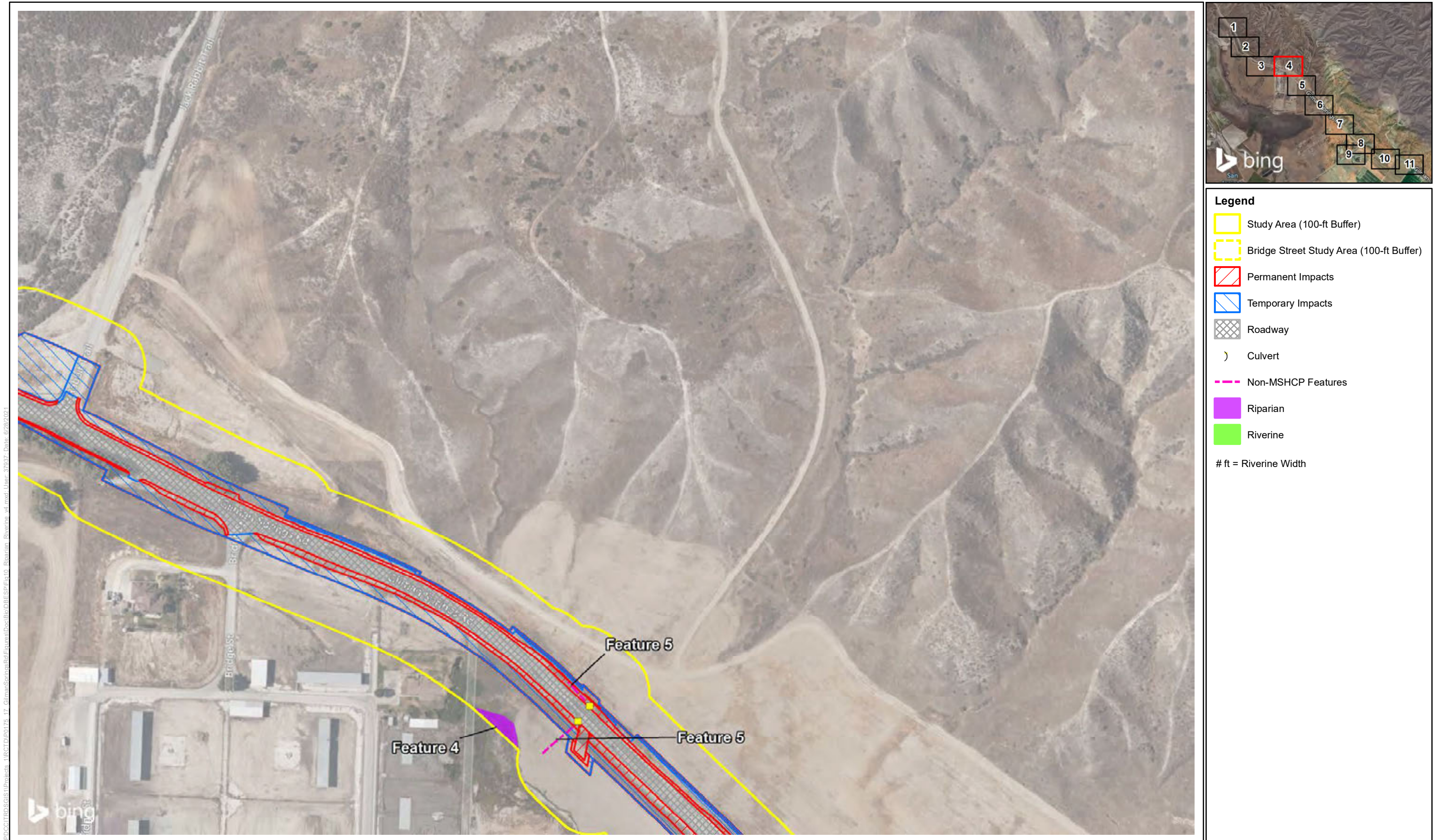
Legend

- Study Area (100-ft Buffer)
- Bridge Street Study Area (100-ft Buffer)
- Permanent Impacts
- Temporary Impacts
- Roadway
- Culvert
- Non-MSHCP Features
- Riparian
- Riverine

ft = Riverine Width



Figure 10 - Sheet 3
Riparian/Riverine Resources
Gilman Springs Median and Shoulder Improvements Project



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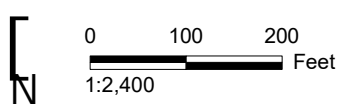


Figure 10 - Sheet 4
Riparian/Riverine Resources
Gilman Springs Median and Shoulder Improvements Project



Legend

- Study Area (100-ft Buffer)
- Bridge Street Study Area (100-ft Buffer)
- Permanent Impacts
- Temporary Impacts
- Roadway
- Culvert
- Non-MSHCP Features
- Riparian
- Riverine

ft = Riverine Width

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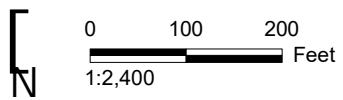
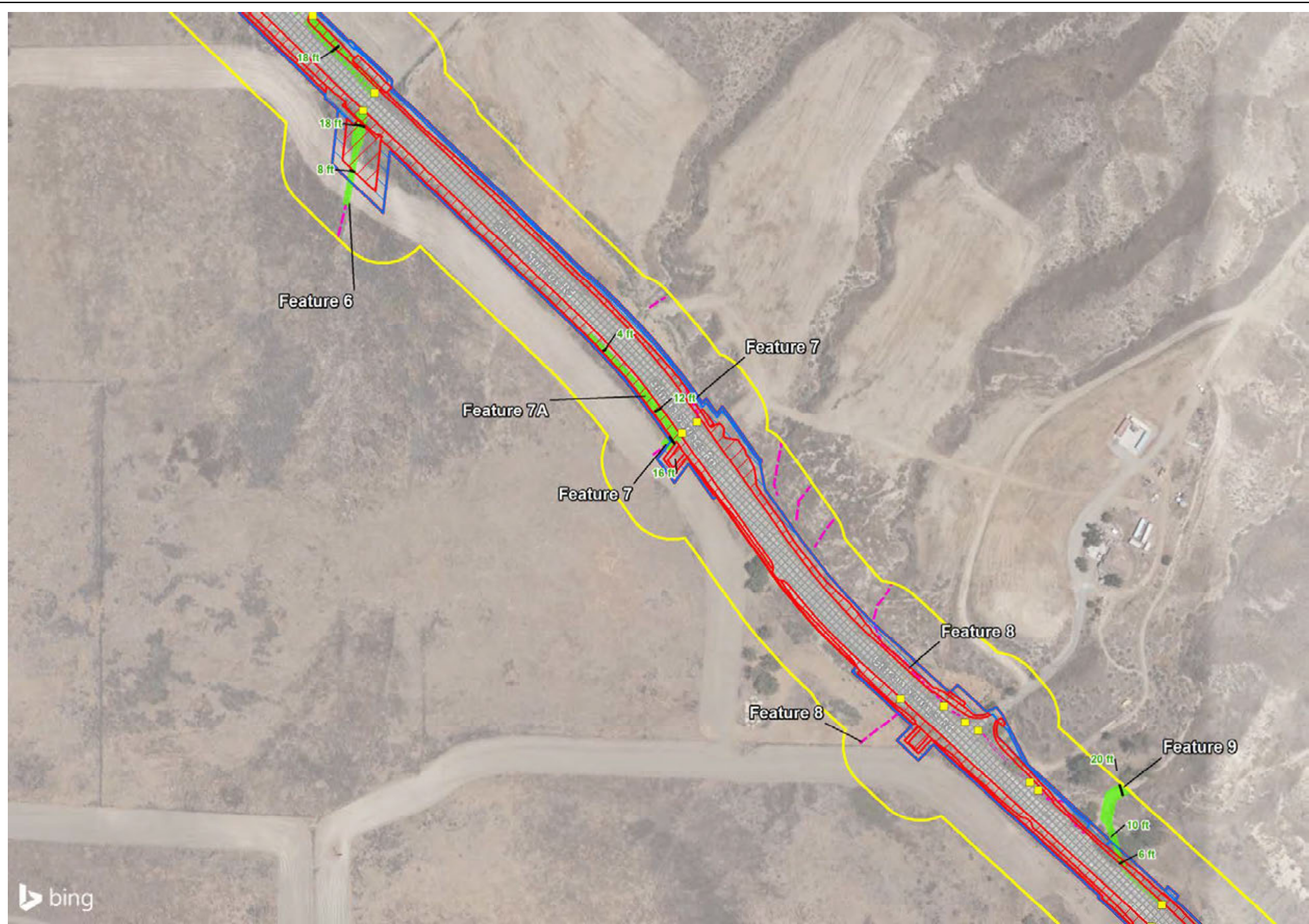


Figure 10 - Sheet 5
Riparian/Riverine Resources
Gilman Springs Median and Shoulder Improvements Project

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Legend

- Study Area (100-ft Buffer)
- Bridge Street Study Area (100-ft Buffer)
- Permanent Impacts
- Temporary Impacts
- Roadway
- Culvert
- Non-MSHCP Features
- Riparian
- Riverine

ft = Riverine Width

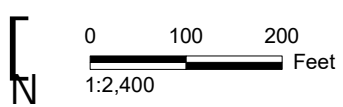
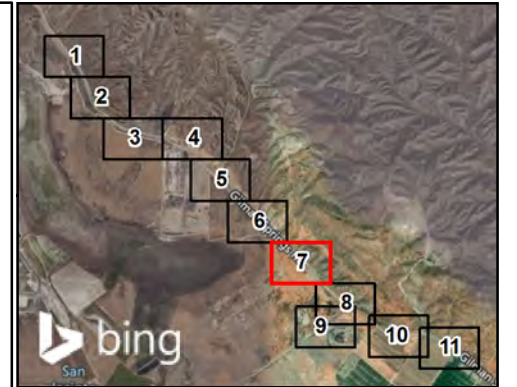
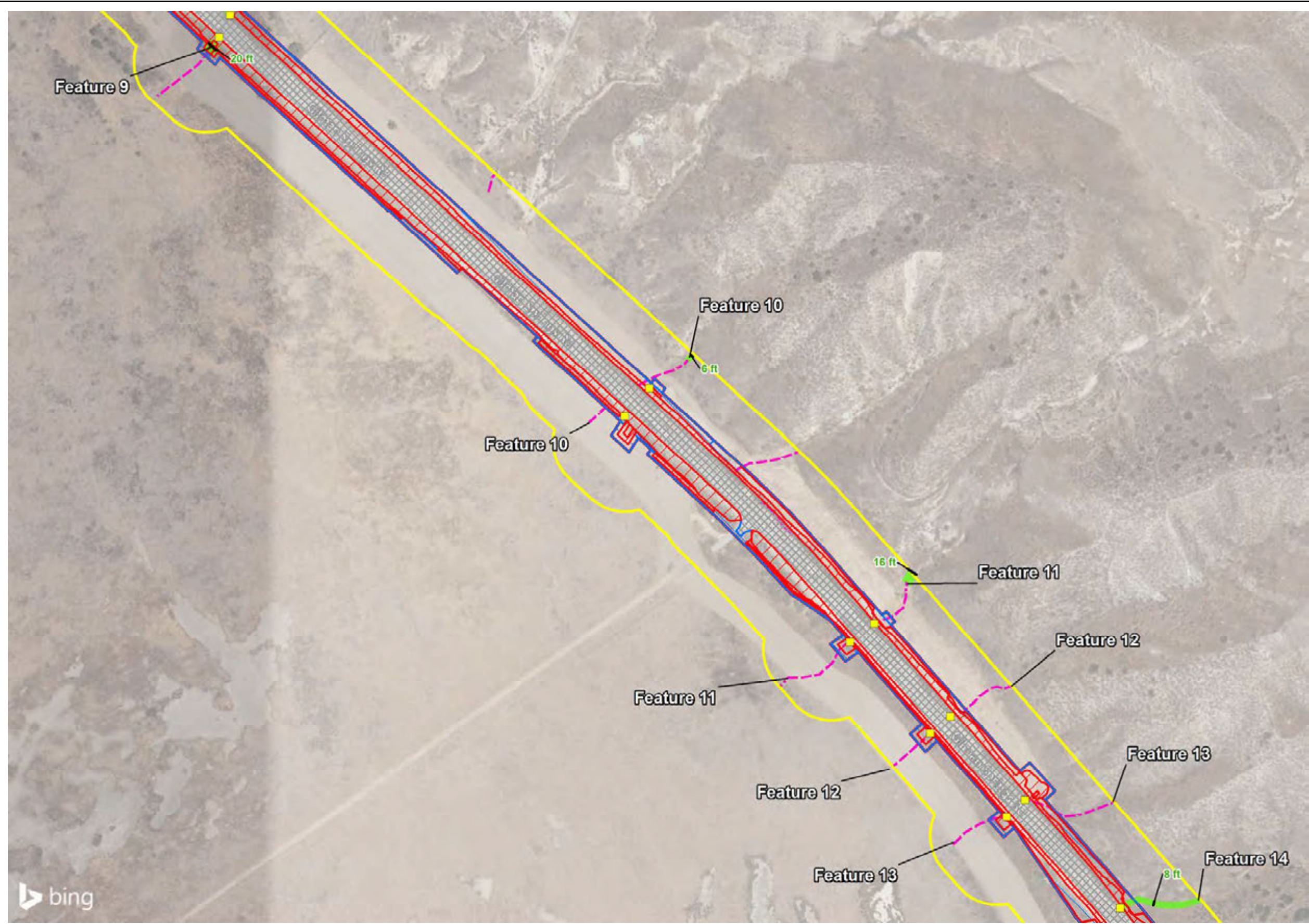


Figure 10 - Sheet 6
Riparian/Riverine Resources
Gilman Springs Median and Shoulder Improvements Project

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Legend

- Study Area (100-ft Buffer)
- Bridge Street Study Area (100-ft Buffer)
- Permanent Impacts
- Temporary Impacts
- Roadway
- Culvert
- Non-MSHCP Features
- Riparian
- Riverine

ft = Riverine Width

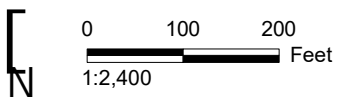
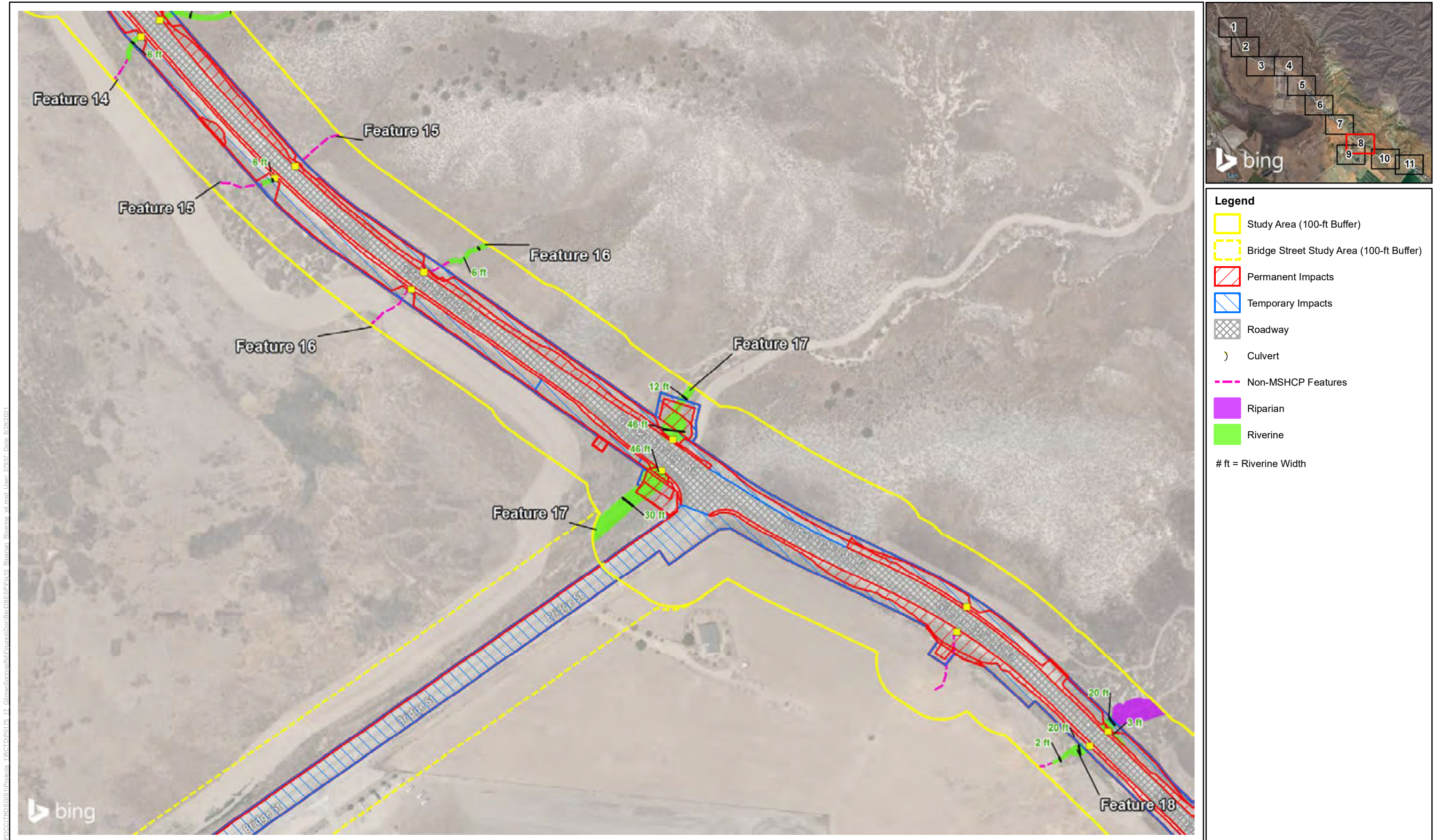


Figure 10 - Sheet 7
Riparian/Riverine Resources
Gilman Springs Median and Shoulder Improvements Project



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Legend

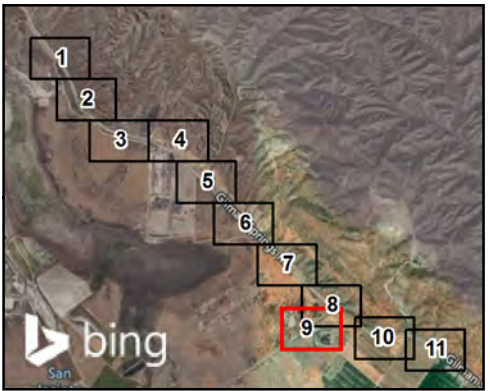
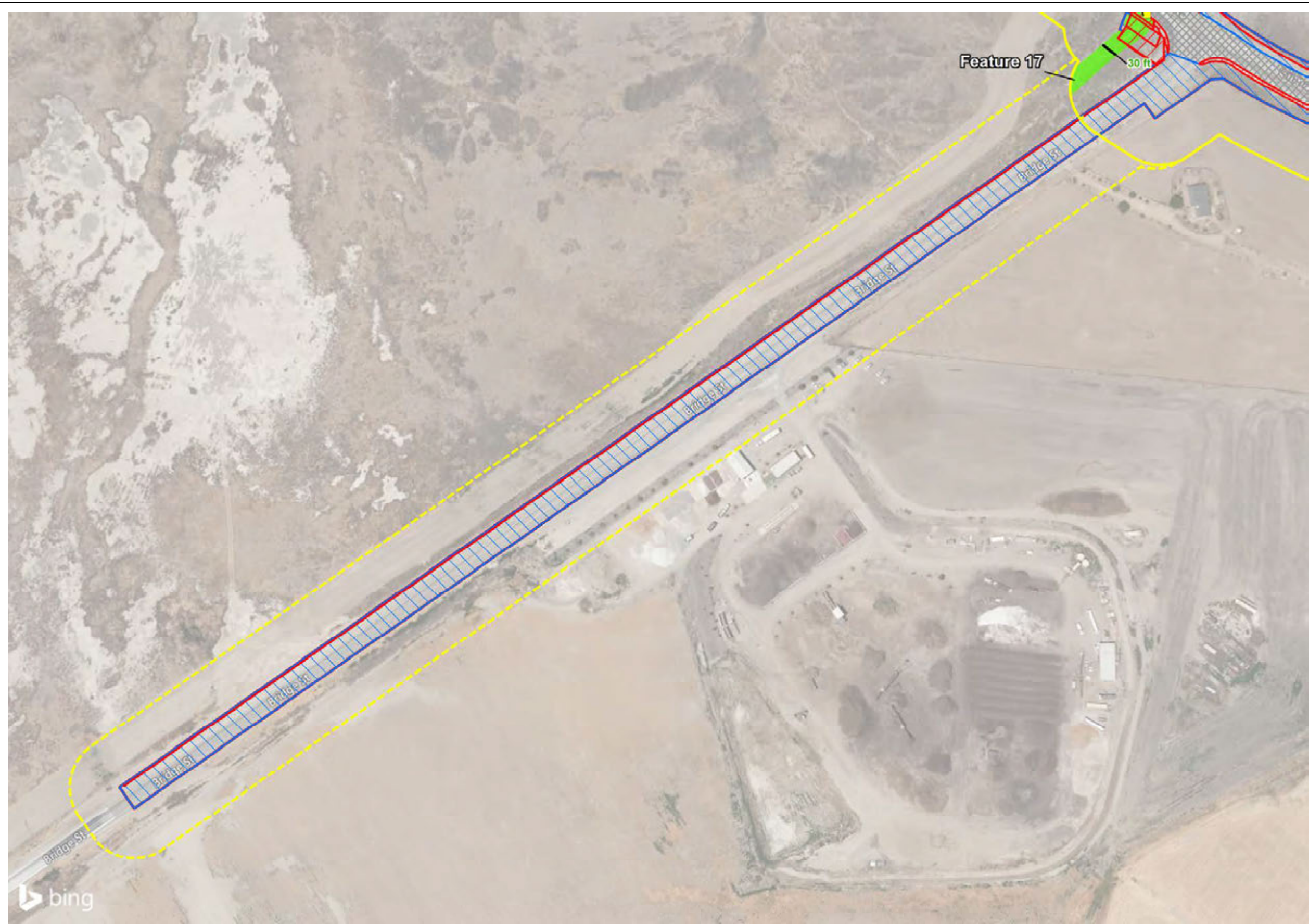
- Study Area (100-ft Buffer)
- Bridge Street Study Area (100-ft Buffer)
- Permanent Impacts
- Temporary Impacts
- Roadway
- Culvert
- Non-MSHCP Features
- Riparian
- Riverine

ft = Riverine Width

0 100 200
 Feet
 1:2,400

Figure 10 - Sheet 8
Riparian/Riverine Resources
Gilman Springs Median and Shoulder Improvements Project

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Legend

- Study Area (100-ft Buffer)
- Bridge Street Study Area (100-ft Buffer)
- Permanent Impacts
- Temporary Impacts
- Roadway
- Culvert
- Non-MSHCP Features
- Riparian
- Riverine

ft = Riverine Width

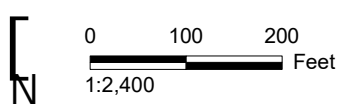
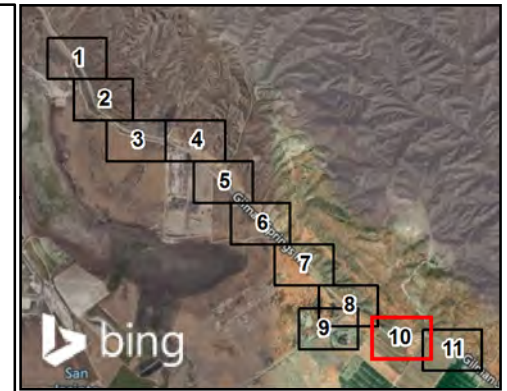
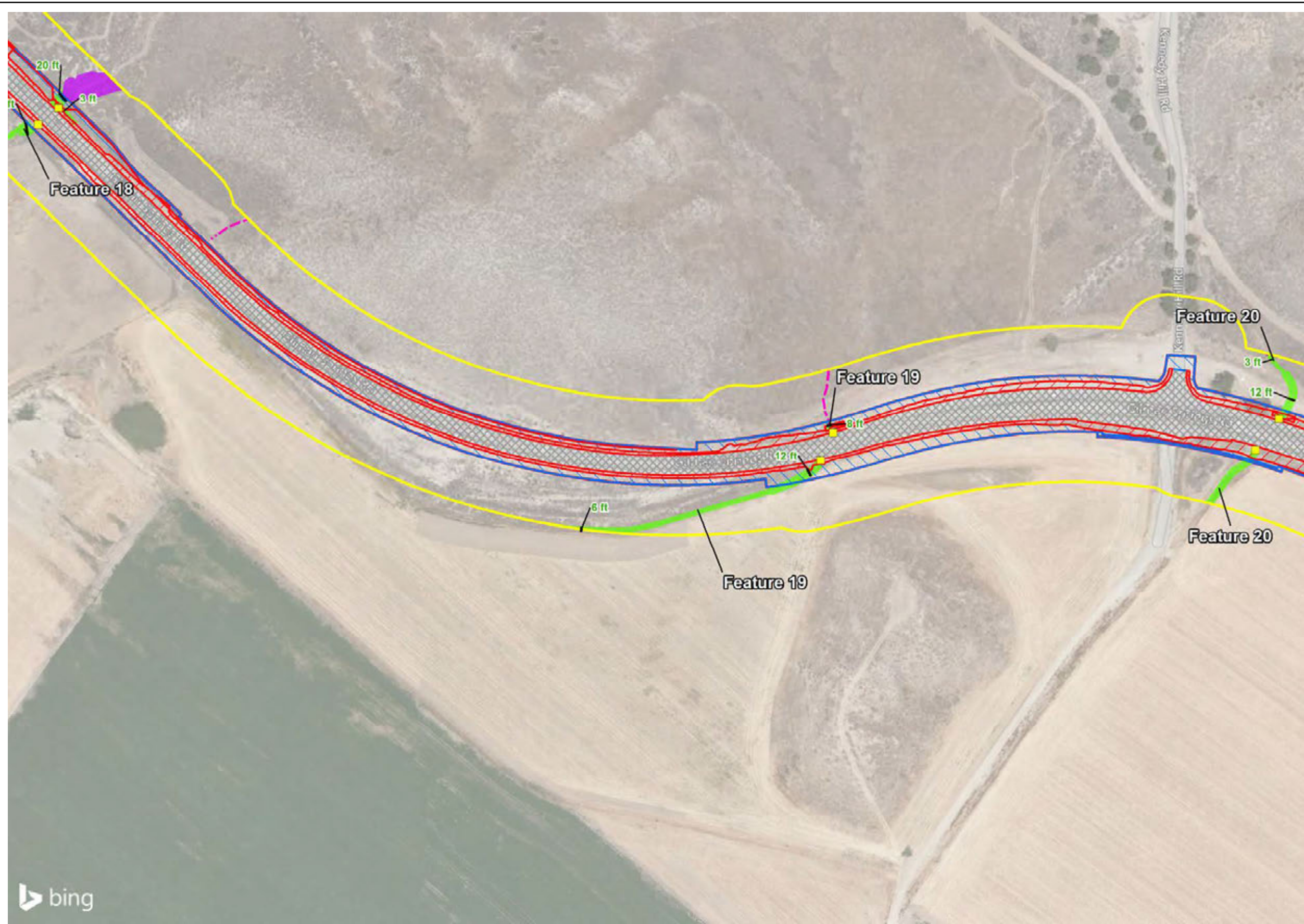


Figure 10 - Sheet 9
Riparian/Riverine Resources
Gilman Springs Median and Shoulder Improvements Project

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Legend

- Study Area (100-ft Buffer)
- Bridge Street Study Area (100-ft Buffer)
- Permanent Impacts
- Temporary Impacts
- Roadway
- Culvert
- Non-MSHCP Features
- Riparian
- Riverine

ft = Riverine Width

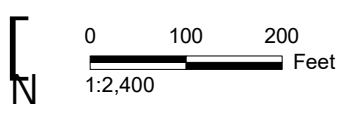
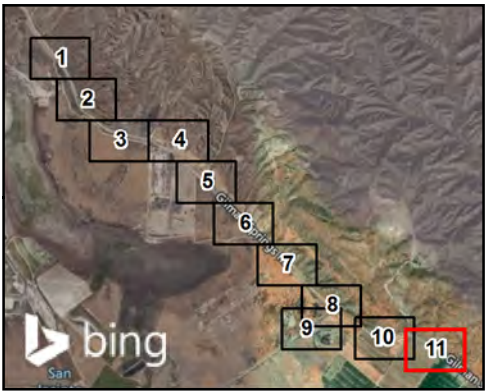
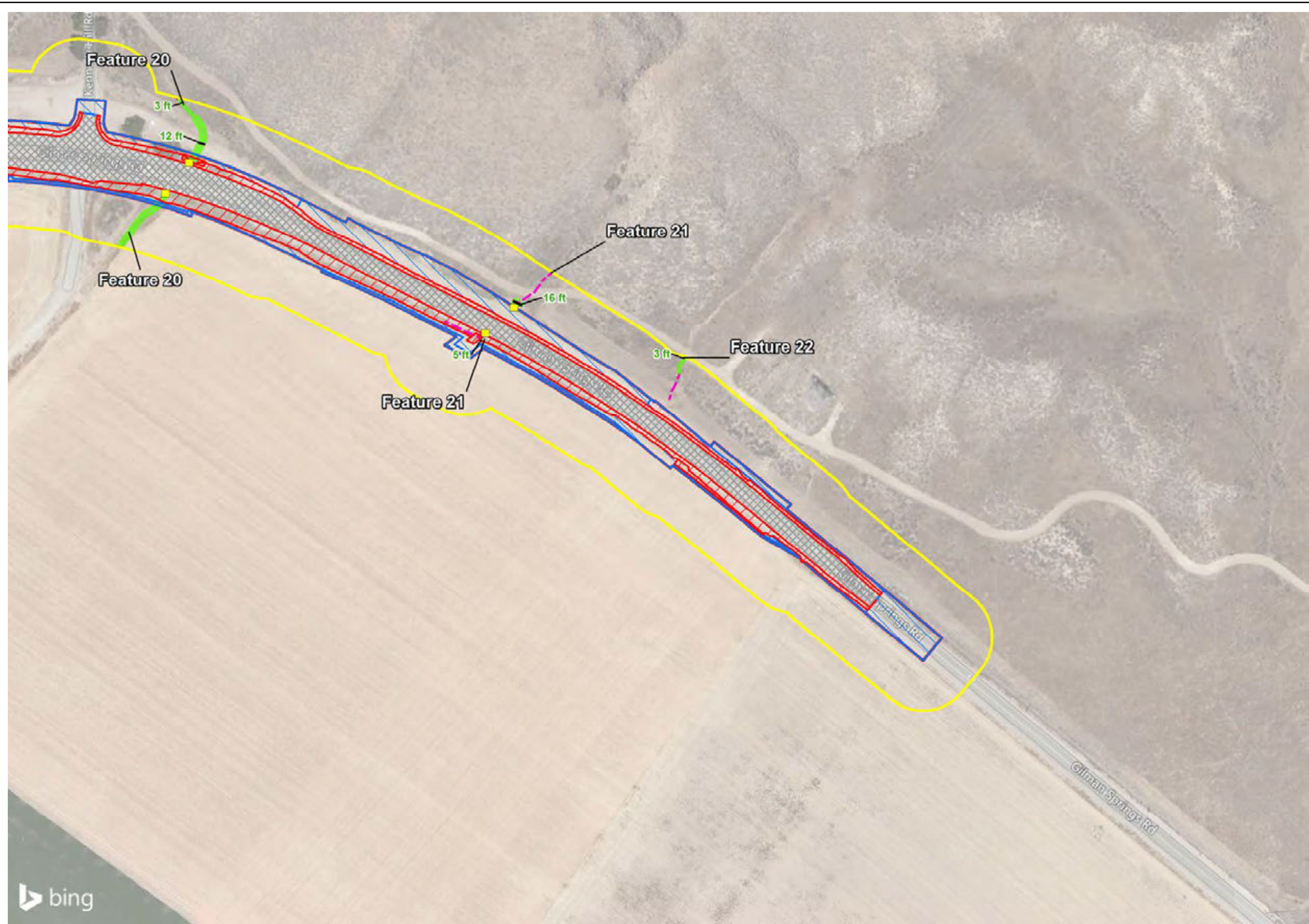


Figure 10 - Sheet 10
Riparian/Riverine Resources
Gilman Springs Median and Shoulder Improvements Project

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Legend

- Study Area (100-ft Buffer)
- Bridge Street Study Area (100-ft Buffer)
- Permanent Impacts
- Temporary Impacts
- Roadway
- Culvert
- Non-MSHCP Features
- Riparian
- Riverine

ft = Riverine Width

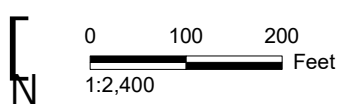


Figure 10 - Sheet 11
Riparian/Riverine Resources
Gilman Springs Median and Shoulder Improvements Project

Appendix B – Construction Activity Details

Date: August 28, 2020
To: Marisa Flores - ICF
From: Nick Haigh, PE – NCM
Subject: Evaluation of Impacts Associated with Culvert Extensions and Grading for Gilman Springs Road Widening Project (C2-0161)

This memorandum has been prepared to address feedback from the Western Riverside County Regional Conservation Authority and the California Department of Fish and Wildlife regarding details for construction activities occurring within Culvert Extension areas, Slope Easements, and Temporary Construction Easements (TCEs). Permanent impacts would occur at each culvert extension location and include installation of culverts, headwalls, and rock slope protection, and may result in short-term soil compaction within the drainage easements. The TCE and Slope Easements being used for access to/from the culvert extension areas and the earthwork associated with these areas are considered temporary based on the proposed work activities, equipment used, and durations of activities. A description of the activities follows:

1. Culvert Extensions

Construction Activities include:

- (a) Demolition and Clearance - existing concrete headwalls will be removed using a small backhoe with breaker attachment. Clearing and grubbing will be performed with a small tractor with ripper attachment to remove roots, etc. A small shovel loader and dump truck will be used for loading and removal of debris.
- (b) Installation of Corrugated Steel Pipe (CSP) Culverts - small diameter culverts (18" to 36" diameter) and medium size culverts (48" diameter to 83" x 57" arched) will be offloaded from flatbed delivery trucks and placed using small and medium-sized rubber-tired tractor/loader backhoes, respectively. Bedding and backfill granular materials will be placed using small rubber-tired dump trucks and shaped with backhoe or small, vibratory compaction equipment. A standard size water truck will spray water for dust suppression following culvert fill compaction operations.
- (c) Construction of Concrete Headwall - falsework will erected using backhoe to help set formwork and rebar. Concrete will be pumped from roadside using a concrete pump and ground crew.
- (d) Installation of Rock Slope Protection (RSP) - RSP is installed at culvert outlet to control outlet velocities and dissipate flow to reduce downstream erosion. Rock is placed by tipping from a standard dump truck and placement adjusted using a small backhoe. RSP will help establish natural habitat by stilling flow.
- (e) Finishing, Cleanup, Decompaction and Hydroseeding - small rubber-tired backhoe/loader will be used for cleanup and after decompaction with a lightweight ripper attachment, hydroseed will be pump-applied through a hose from the roadside using native seed selection to revegetate graded surfaces and help prevent future erosion.

Duration – work will take approximately 2 weeks (10 working days) at each culvert location.

2. Roadway Earthwork Grading

Construction Activities include:

- (a) Roadway Excavation and Embankment Placement (there is no need for non-native imported materials as excavated materials (10,000 CY on entire project) will be directly re-used in adjacent fill areas). Tracked bulldozer and grader can be used for excavation operations, and loader will place material in dump trucks to be hauled to fill locations. At fill locations, dump truck will dump material.
- (b) Compaction of material - a standard-size bulldozer will be used to spread and compact the fill materials to standard engineering specification. The bulldozer will also shape the embankments and cut slopes. A standard size water truck will spray water for dust suppression during earthwork operations. This may temporarily allow the surface material to receive more compaction but, as the grading/compaction will be performed by a caterpillar-tracked bulldozer, the tracks will leave a roughened, decompacted top layer, conducive to establishment of seed for regrowth of native vegetation.
- (c) Hydroseeding - after completion of grading operations, hydroseed will be pump-applied through a hose from the roadside using native seed selection to revegetate graded surfaces and help prevent future erosion.

Please note, only small size construction equipment is anticipated to be used to construct the roadway embankments, that typically range in height from an average of 5 feet to a maximum of 17 feet.

Duration – total duration for all earthwork grading areas is 10 working days for each 2,000 foot long portion of each side of the roadway. The total time to complete the 5,800 feet of earthwork grading within the resource conservation lands is approximately 30 working days.

Appendix C – Wildlife Crossing and Openness Ratio Analysis

Table C-1. Under Crossings within the Project Study Area and their Wildlife Corridor Attributes

Culvert Pair	Height (meters)	Width (meters)	Current Length (meters)	Current Openness Ratio	New Length (meters)	New Openness Ratio	Appropriate Wildlife Class¹
1/2	0.91	0.91	14.33	0.06	16.76	0.05	Sm/med
3/4	0.91	0.91	14.02	0.06	17.07	0.05	Sm/med
5/6	16.40 , 13.12 (x3)	9.84 , 13.12 (x3)	21.34	NA ²	23.16	NA ²	NA
7/8	0.91	0.91	25.60	0.03	30.48	0.03	Sm/med
9/10	0.91	0.91	15.24	0.05	17.68	0.05	Sm
11/12	2.74	4.27	23.16	0.51	24.99	0.47	Sm/med/lar
13/14	0.91 (x6)	0.91 (x6)	14.02	0.06	20.73	0.04	Sm/med
15/16	0.61	0.61	33.53	0.01	35.97	0.01	Sm
17/18	1.52 (x7)	2.03 (x7)	12.80	0.24	17.07	0.18	Sm/med
19/20	0.91 (x4)	0.91 (x4)	13.41	0.06	19.51	0.04	Sm/med
21/22	0.91 (x5)	0.91 (x5)	16.46	0.05	18.90	0.04	Sm/med
23/24	0.91 (x2)	0.91 (x2)	15.85	0.05	21.34	0.04	Sm/med
25/26	0.91 (x2)	0.91 (x2)	14.94	0.06	19.81	0.04	Sm/med
27/28	0.71	0.51	18.90	0.02	21.34	0.02	Sm
29/30	0.46	0.46	19.81	0.01	21.03	0.01	Sm
31/32	0.61	0.61	17.68	0.02	22.56	0.02	Sm
33/34	0.61	0.89	17.68	0.03	20.12	0.03	Sm
35/36	0.76	0.76	17.68	0.03	18.90	0.03	Sm
37/38	0.61	0.61	15.54	0.02	17.98	0.02	Sm
39/40	1.83	3.66	21.95	0.31	22.05 ³	0.82	Sm/med/lar
41/42	1.22 (x2)	1.22 (x2)	20.73	0.07	20.73	0.07	Sm/med
43/44	0.91 (x3)	0.91 (x3)	22.86	0.04	28.65	0.03	Sm/med
45/46	0.97 (x3)	0.81 (x3)	25.60	0.03	25.60	0.03	Sm
47/48	0.89 (x3)	0.61 (x3)	27.43	0.02	34.14	0.02	Sm

¹ Sm = small, med = medium, lar = large

² The inlet of this feature is a vertical grated drain straight down into the ground that then curves horizontally and outlets below the other side of the road. Therefore, it has no openness ratio because it cannot be used by wildlife.

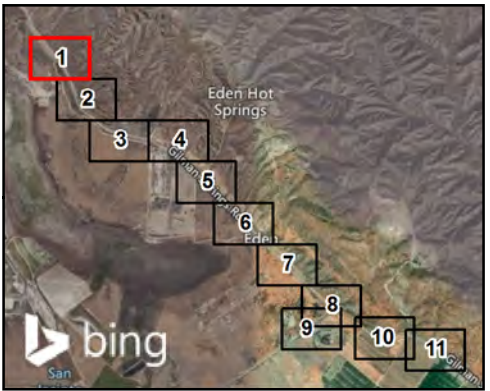
³ The Bridge Street bridge will have a new width of 7.92 meters and height of 2.29 meters.

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Culvert 1 (Infall)
 8 - 36" CSP Extension (8' Long)
 Current OR: 0.06
 New OR: 0.05

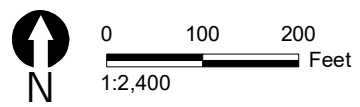
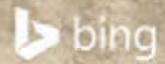
Culvert 2 (Outfall)



Legend

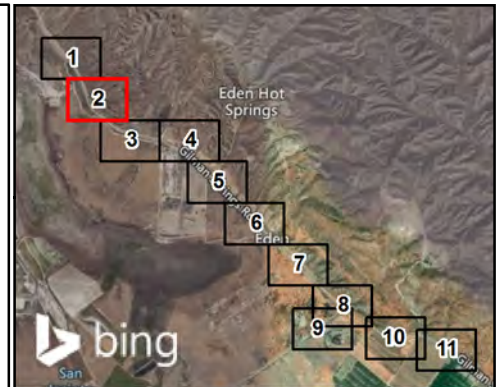
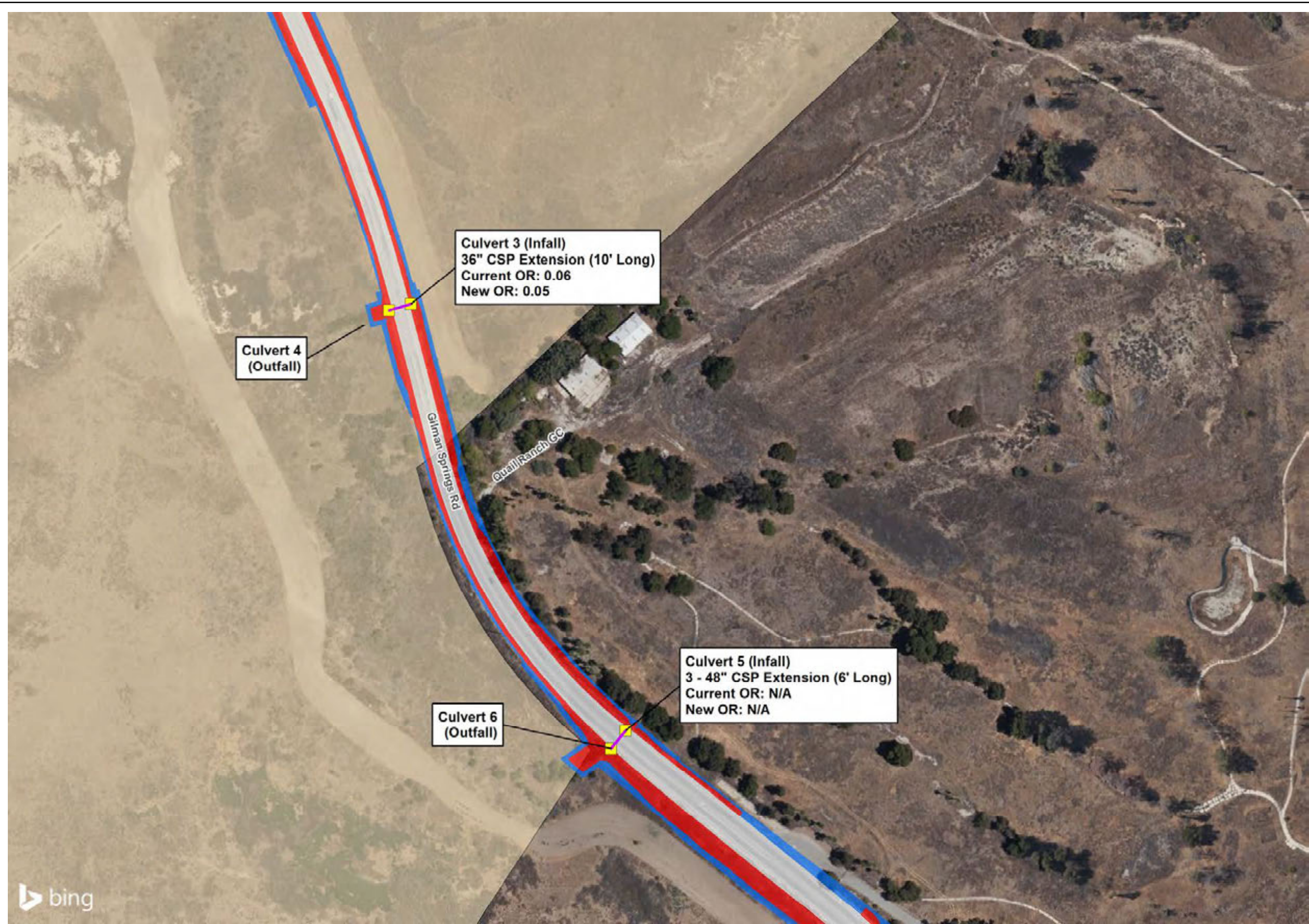
- Permanent Impacts
- Temporary Impacts
- Permanent, Roadway
- Culverts
- Culvert Alignment
- NHD Blue Line
- Core Linkage

Source: RCTD (2021); ESRI (2017);
 County of Riverside



Appendix C - Sheet 1 of 11
Culverts and Core Linkages
Gilman Springs Road Improvement Project

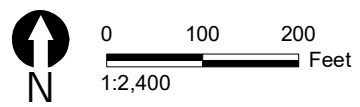
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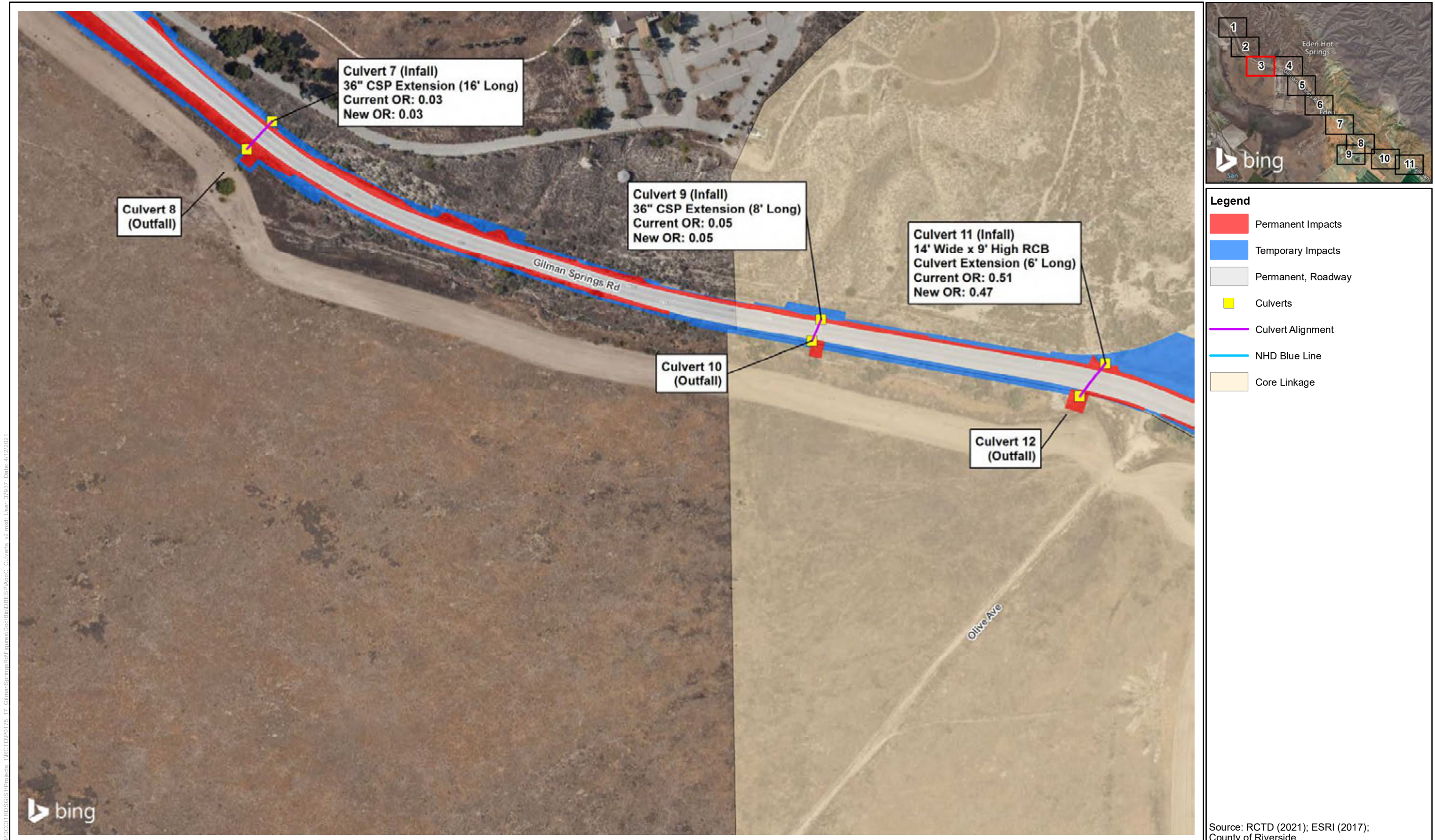


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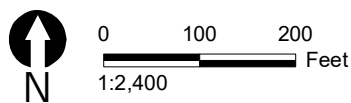
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- Temporary Impacts
- Permanent, Roadway
- Culverts
- Culvert Alignment
- NHD Blue Line
- Core Linkage

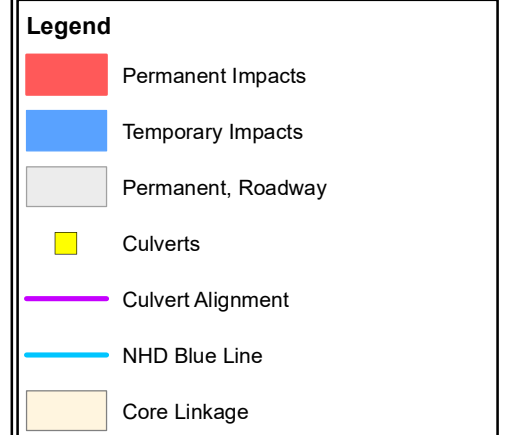
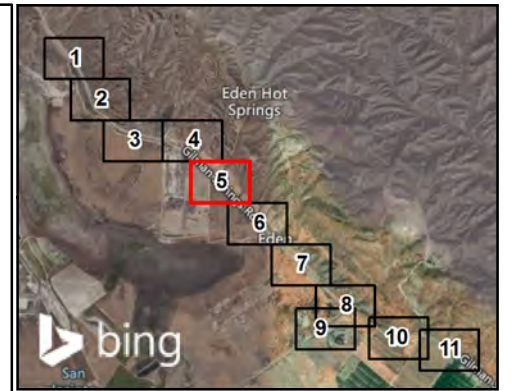
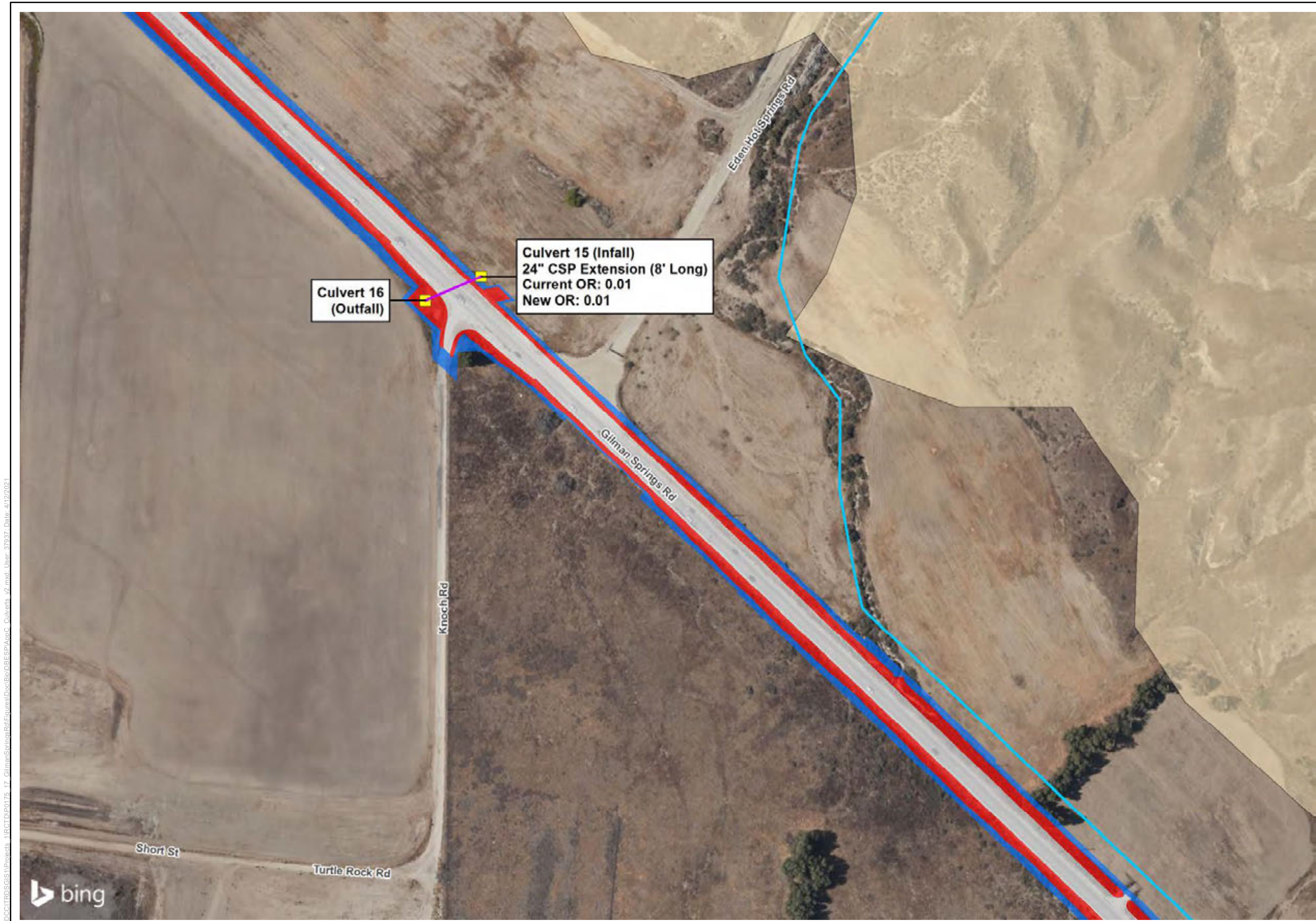
Source: RCTD (2021); ESRI (2017); County of Riverside





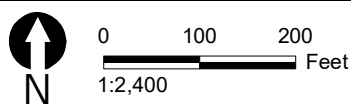
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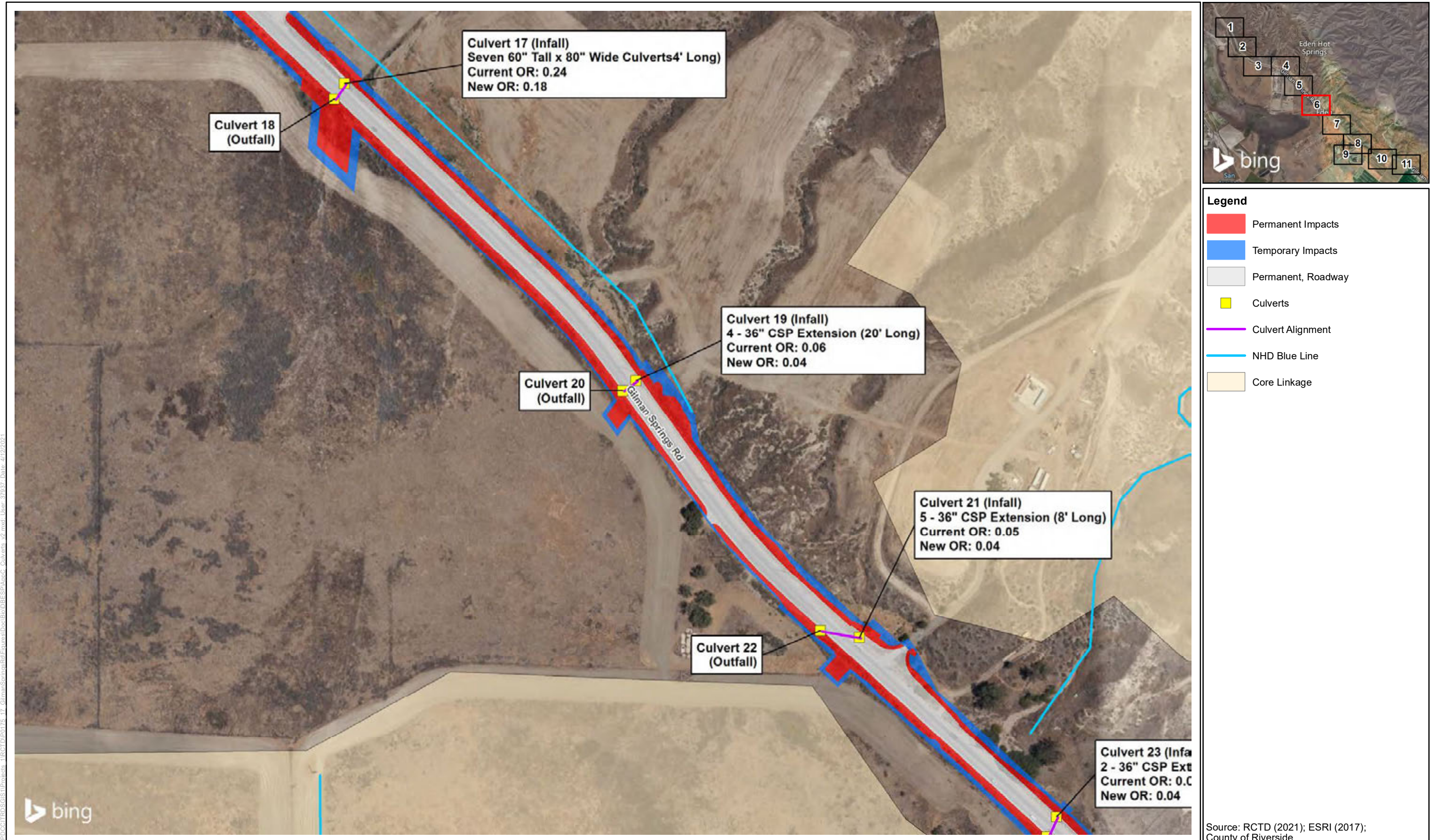




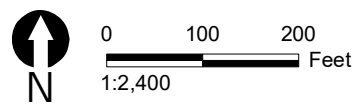
Source: RCTD (2021); ESRI (2017);
County of Riverside

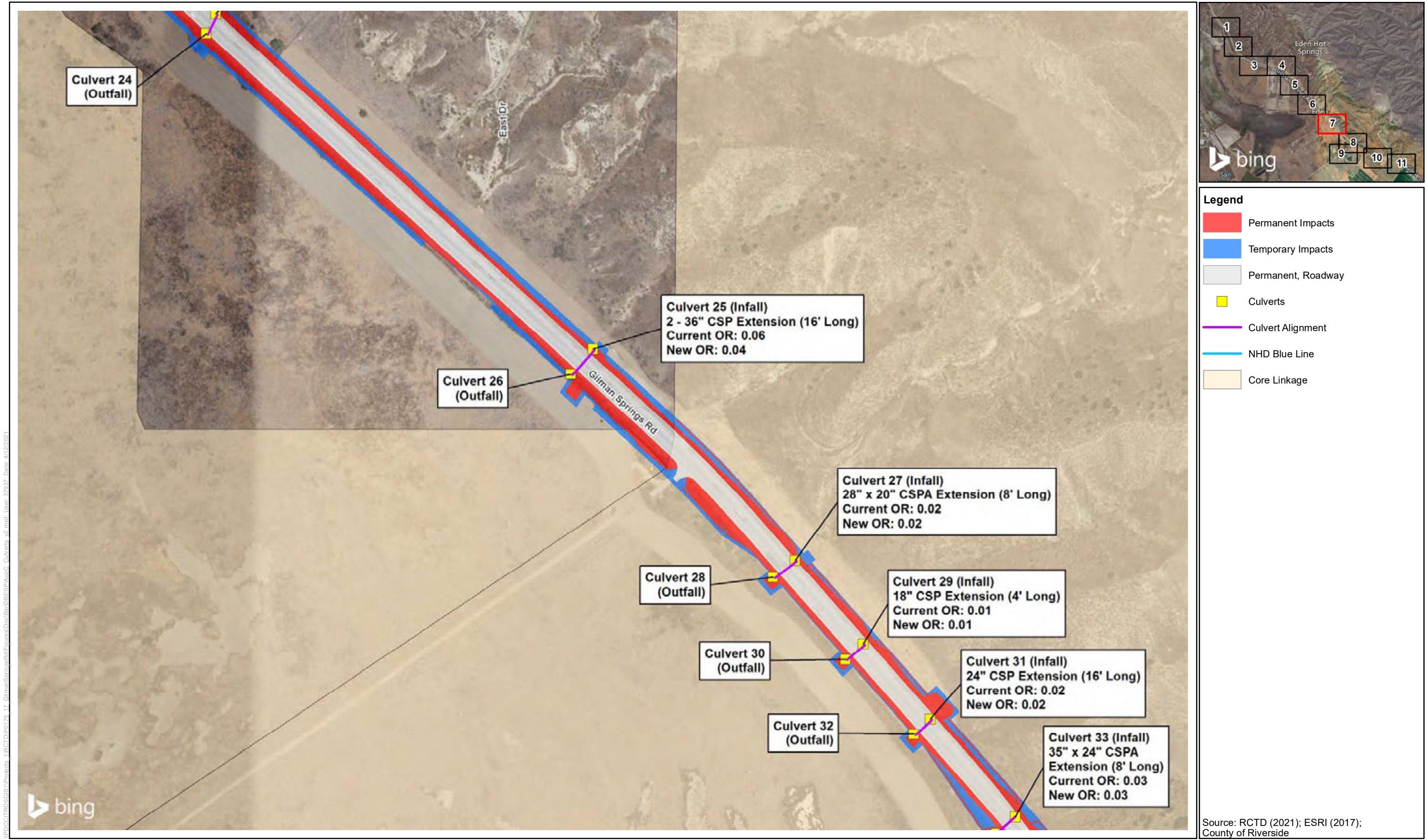
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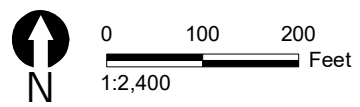
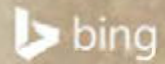


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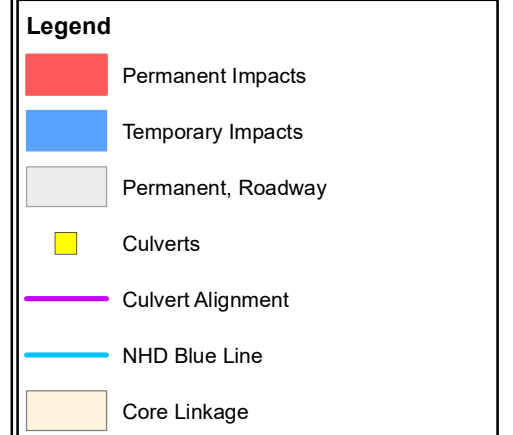
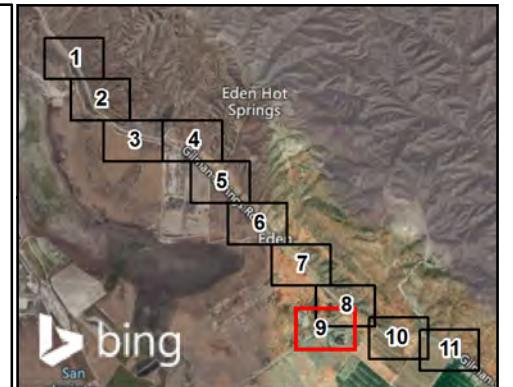




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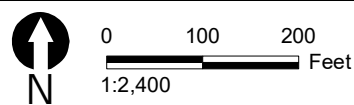


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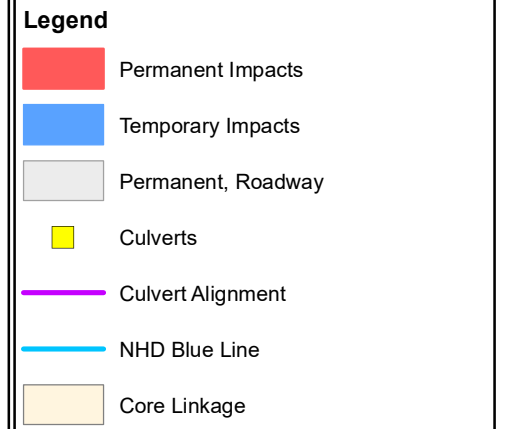
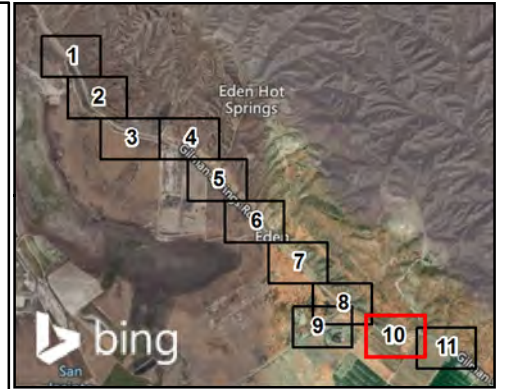
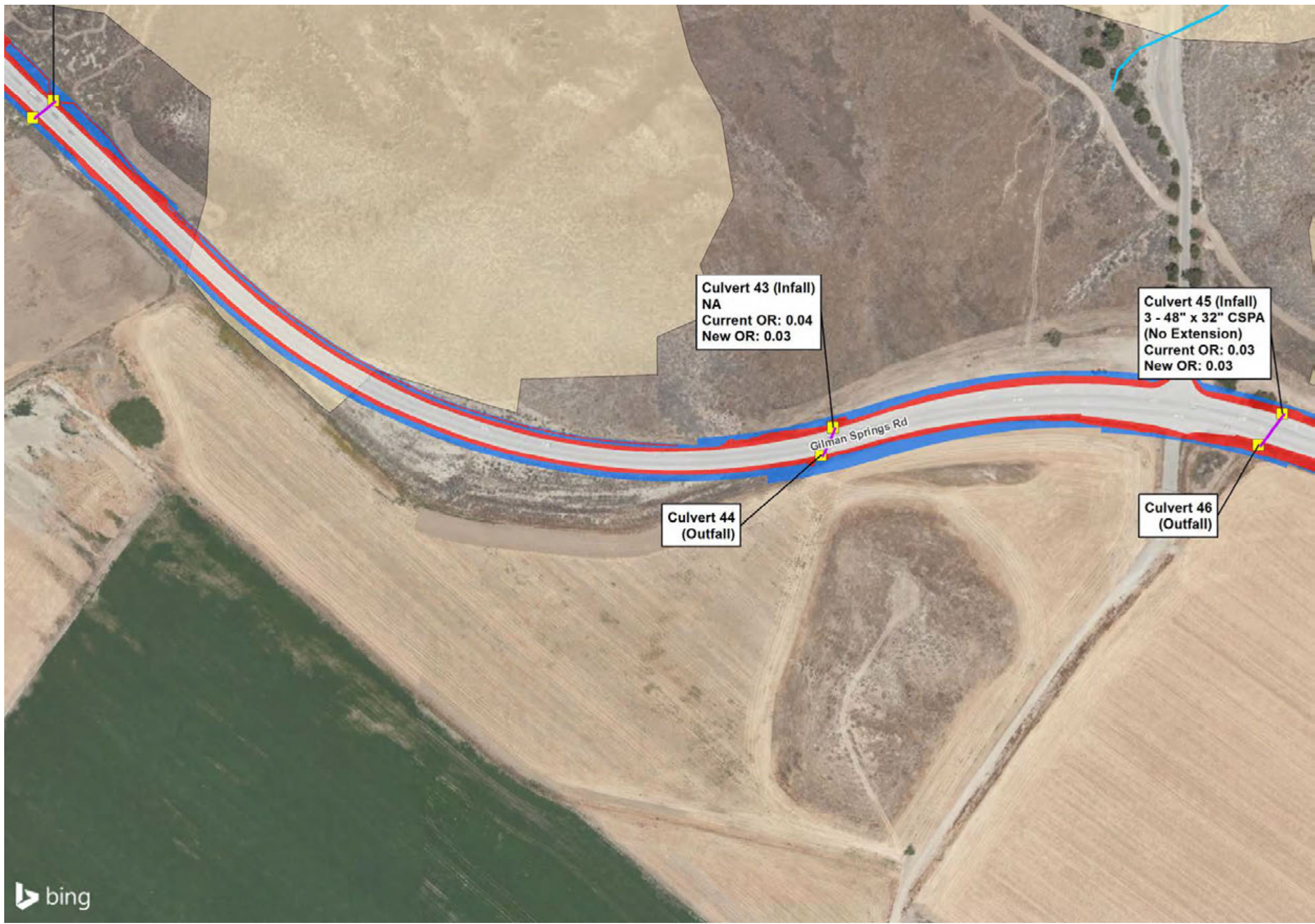


Source: RCTD (2021); ESRI (2017);
County of Riverside

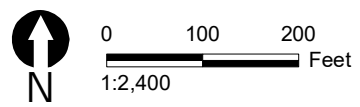
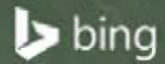
**Appendix C - Sheet 9 of 11
Culverts and Core Linkages
Gilman Springs Road Improvement Project**

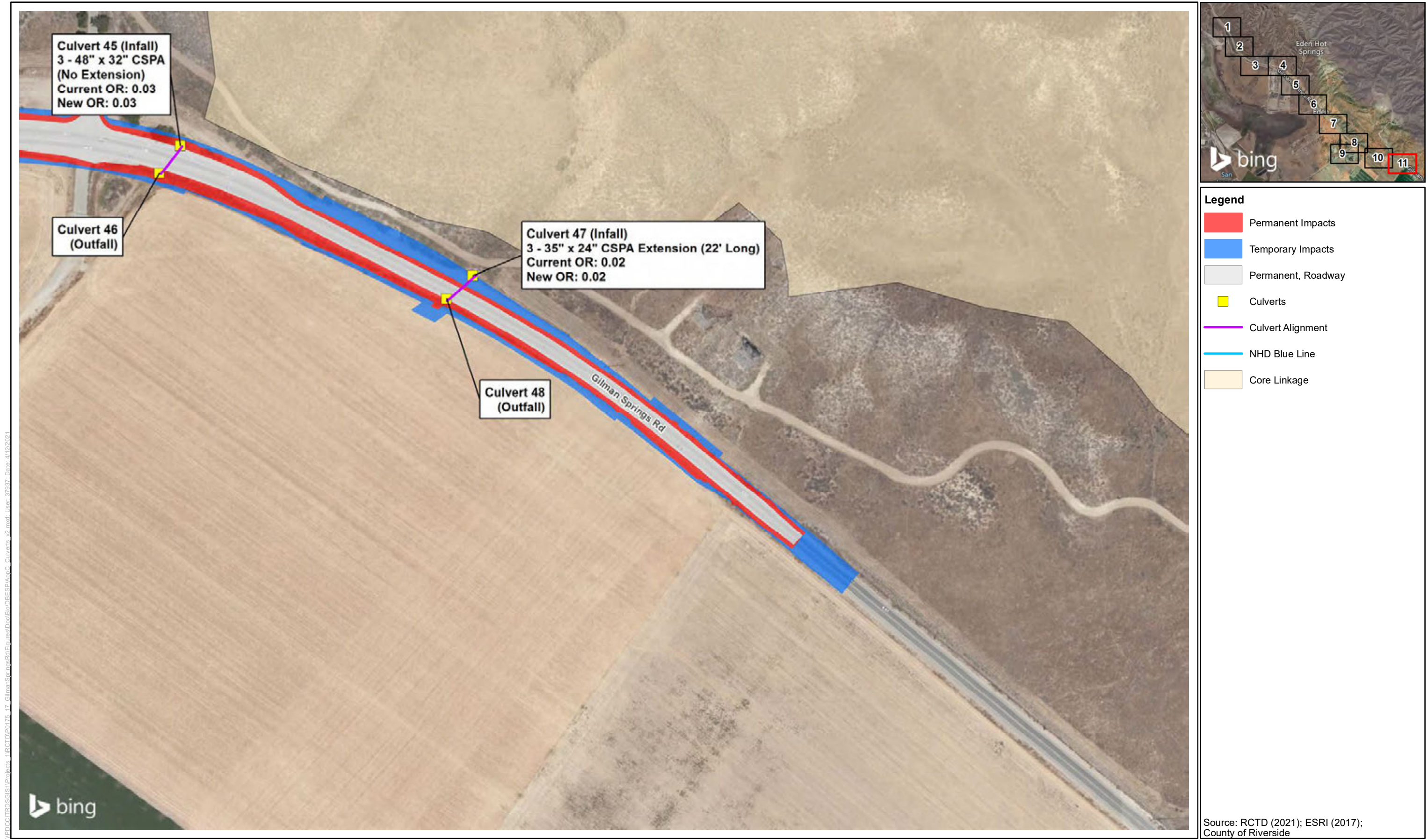


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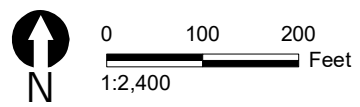


Source: RCTD (2021); ESRI (2017); County of Riverside







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Appendix D – Site Photographs

	<p>Photograph: 1</p> <p>Photo Date: May 12, 2017</p> <p>Location: Southwest end of study area</p> <p>Direction: View facing east.</p> <p>Comment: Photo depicts disturbed habitat dominated by stinknet with mule fat scrub in the background.</p>
	<p>Photograph: 2</p> <p>Photo Date: May 12, 2017</p> <p>Location: Southwest end of study area</p> <p>Direction: View facing west.</p> <p>Comment: Photo depicts nonnative grassland habitat.</p>

	<p>Photograph: 3</p> <p>Photo Date: May 12, 2017</p> <p>Location: Southeast end of study area.</p> <p>Direction: View facing west.</p> <p>Comment: Photo depicts recently plowed area.</p>
	<p>Photograph: 4</p> <p>Photo Date: May 12, 2017</p> <p>Location: Southeast end of study area</p> <p>Direction: View facing west.</p> <p>Comment: Photo depicts brittle bush scrub.</p>



Photograph: 5
Photo Date: July 20, 2017
Location: Northeast end of study area
Direction: View facing west.
Comment: Photo depicts fourwing saltbush scrub.





Photograph: 6
Photo Date: July 20, 2017
Location: North-central portion of the study area.
Direction: View facing northeast.
Comment: Photo depicts disturbed habitat adjacent to Gilman Springs Road.



Photograph: 7
Photo Date: July 20, 2017
Location: Northeast end of the study area.
Direction: View facing west.
Comment: Photo depicts disturbed habitat with brittle bush scrub on the hills in the background.



Photograph: 8
Photo Date: May 12, 2017
Location: South-central portion of the study area.
Direction: View facing west.
Comment: Close-up of smooth tarplant

	<p>Photograph: 9</p> <p>Photo Date: May 12, 2017</p> <p>Location: South-central portion of the study area.</p> <p>Direction: View facing west.</p> <p>Comment: Photo of smooth tarplant population.</p>
	<p>Photograph: 10</p> <p>Photo Date: March 8, 2018</p> <p>Location: Southern portion of the study area.</p> <p>Direction: NA</p> <p>Comment: Photo of burrowing owl.</p>



Photograph: 11
Photo Date: February 8, 2018
Location: Feature # 5
Direction: Northwest
Comment: View of the upstream section of Feature #5. No riverine feature is present from the upstream area; strictly road runoff is directed at the culvert area.



Photograph: 12
Photo Date: February 8, 2018
Location: Feature # 8
Direction: Northwest
Comment: View of the upstream section of Feature 8. Ephemeral road runoff is directed to culvert; no riverine features were identified within the up/downstream areas.

	<p>Photograph: 13</p> <p>Photo Date: February 8, 2018</p> <p>Location: Feature #12</p> <p>Direction: Northeast</p> <p>Comment: View of the upstream section of Feature 12. Ephemeral road runoff is directed to culvert; no riverine features were identified within the up/downstream areas.</p>
	<p>Photograph: 14</p> <p>Photo Date: February 8, 2018</p> <p>Location: Feature #13</p> <p>Direction: Southeast</p> <p>Comment: View of the downstream section of Feature 13. Ephemeral road runoff is directed to culvert under the road; no riverine features were identified within the up or downstream areas.</p>

Appendix E – Mitigation Measures

The following measures will avoid, minimize, and/or provide compensatory mitigation for direct impacts on the resources identified in the DBESP report. These measures have been taken from the *Natural Environment Study (Minimal Impacts) for the Gilman Springs Median and Shoulder Improvements Project* (ICF 2021). Reference to the Natural Environment Study (Minimal Impacts) (NESMI) measure numbers are indicated parenthetically following each measure.

Avoidance and Minimization Measures

BIO-1 (NESMI BIO-1): Clearing of natural vegetation (including sage scrub) will be performed outside of the active breeding season for birds, as defined in the MSHCP (March 1 through June 30) (MSHCP Volume I, Section 7.5.3). If construction activities and disturbances to vegetation cannot be avoided during the active breeding season, measure **BIO-13 (NESMI BIO-16)** is required (refer to measure **BIO-13 (NES BIO-16)** for the nesting bird survey requirements).

BIO-2 (NESMI BIO-4): The qualified project biologist will monitor construction activities for the duration of the proposed project at a frequency necessary to ensure that practicable measures are being employed and avoid incidental disturbance of habitat and species of concern outside the project footprint (MSHCP Volume I, Section 7.5.3). To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s), as will any other waste, dirt, or rubble that is generated from project activities. Special attention will be provided to ensure that any environmentally sensitive area (ESA) fencing required in **BIO-3 (NESMI BIO-5)** is maintained. Additionally, ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices (BMPs). This will be done in tandem with **BIO-3 (NESMI BIO-5)**, below, which includes the fencing of sensitive areas (e.g., riparian/riverine resources and jurisdictional waters and wetlands adjacent to the footprint and conserved lands).

BIO-3 (NESMI BIO-5): Construction personnel will strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) will be the minimal area necessary to complete the proposed project and will be specified in the construction plans. Construction limits adjacent to sensitive resource areas will be demarcated using ESA fencing (e.g., orange snow fencing, silt fencing, signage). The ESA fencing will be reviewed at a frequency deemed necessary by the biological monitor (as indicated in **BIO-2 (NESMI BIO-4)**) until the completion of all construction activities. Employees will be instructed that their activities are restricted to the construction areas (MSHCP Volume I, Appendix C). Access to sites will be from pre-existing access routes to the greatest extent possible (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C).

BIO-4 (NESMI BIO-6): Exotic plant species removed during construction will be properly handled to prevent sprouting or regrowth (MSHCP Volume I, Section 7.5.3). Vegetation removed from the project site will be covered while being carried on trucks, and vegetation materials removed from the site will be disposed of in accordance with applicable laws and regulations.

BIO-5 (NESMI BIO-7): Construction equipment will be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction. Equipment will be cleaned within designated staging areas that are not adjacent to drainages, PQP, or ARL lands. These areas will be adequately fenced to control the spread of invasive species and runoff.

BIO-6 (NESMI BIO-8): Plans for water pollution and erosion control (i.e., Storm Water Pollution Prevention Plan [SWPPP]) will be prepared in accordance with project aquatic resource permits and other project requirements. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, and use of plant material for erosion control. Plans will be reviewed and approved by the County prior to construction (MSHCP Volume I, Section 7.5.3). The following measures will be incorporated into the plans, as applicable, to ensure consistency with the MSHCP:

- Water pollution and erosion control plans will be developed and implemented in accordance with Regional Water Quality Control Board (RWQCB) requirements (MSHCP Volume I, Appendix C) and will ensure that no fluids or sediment from construction will enter into the ESA fenced areas.
- Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized (MSHCP Volume I, Section 7.5.3).
- No erodible materials will be deposited into watercourses or areas demarcated with ESA fencing. Vegetation, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C).
- Activities that cannot be conducted without placing equipment or personnel in riparian vegetation areas shall be timed to avoid the breeding season of riparian-associated species identified in MSHCP Global Species Objective No. 7 (MSHCP Volume I, Appendix C). Breeding season as defined by the MSHCP is March 1 through June 30.
- If stream flows must be diverted, the diversions will be conducted using sandbags or other methods requiring minimal instream impacts as directed in project permits. Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activity to minimize the transport of sediments off-site. Settling ponds where sediment is collected will be cleaned out in a manner that prevents the sediment from reentering the stream (if applicable). Care will be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream (MSHCP Volume I, Section 7.5.3, MSHCP Volume I, Appendix C). Short-term diversions will consider impacts on wildlife (MSHCP Volume I, Section 7.5.3). If water diversion is needed, a diversion plan will be provided to the RCA, USFWS, and CDFW for their approval prior to construction.
- Equipment storage, fueling, and staging areas will be located on non-sensitive upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C). These designated areas will be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions will be taken to prevent the release of cement or other toxic substances into surface waters. Project-related spills of hazardous materials will be reported to appropriate entities, including, but not limited to, the applicable jurisdictional city, County, USFWS, CDFW, and the RWQCB, and will be cleaned up immediately and contaminated soils removed to approved disposal areas (MSHCP Volume I, Appendix C).
- All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances will occur only in designated areas within the proposed grading limits of the project site. These designated areas will be clearly marked and located in such a manner as to contain runoff (MSHCP Volume I, Section 7.5.3).

BIO-7 (NESMI BIO-9): The limits of disturbance, including the upstream, downstream, and lateral extents on either side of any stream adjacent to the project impact footprint, will be clearly defined and marked in the field. Monitoring personnel (biology) will review the limits of disturbance prior to initiation of construction activities (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C). This will ensure avoidance of jurisdictional areas and riparian habitat.

BIO 8 (NESMI BIO-2): Active construction areas will be watered regularly to control dust and thus minimize impacts on adjacent vegetation (MSHCP Volume I, Section 7.5.3).

BIO-9 (NESMI BIO-3): When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to Riversidian sage scrub (RSS), appropriate fire-fighting equipment (e.g., extinguishers, shovels, water tankers) will be available on the project site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, or other fire preventative methods will be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires will advise contractors regarding fire risk from all construction-related activities (MSHCP Volume I, Section 7.5.3).

BIO-10 (NESMI BIO-10): During construction, the placement of equipment within a stream or on adjacent banks or adjacent upland habitats occupied by MSHCP covered species that are outside of the project footprint will be avoided (MSHCP Volume I, Section 7.5.3, and MSHCP Volume I, Appendix C).

BIO-11 (NESMI BIO-13): A qualified biologist will conduct a training session for project and construction personnel (WRC MSHCP Volume I, Section 7.5.3) prior to grading or staging. The training will include a description of the species of concern and their habitats, the general provisions of the Endangered Species Acts (FESA and CESA) and the WRC MSHCP, the need to adhere to the provisions of the acts and the WRC MSHCP, the penalties associated with violating the provisions of the acts, the general measures that are being implemented to conserve the species of concern as they relate to the proposed project, and the access routes to and project site boundaries within which the project activities must be accomplished (WRC MSHCP Volume I, Appendix C). All sensitive areas will be fenced as presented in measure **BIO-3 (NESMI BIO-5)**, above.

BIO-12 (NESMI BIO-14): The MSHCP requires that shielding be incorporated in project designs to ensure ambient lighting in MSHCP conservation areas is not increased (MSHCP Volume I, Section 6.1.4). Night lighting will be directed away from natural lands within existing and proposed MSHCP conservation areas in order to support potential linkage and core functions during construction. This is intended to protect species within existing and proposed MSHCP conservation areas from direct night lighting during construction if activities occur at night. Lights will consist of low pressure sodium bulbs or equivalent type.

BIO-13 (NESMI BIO-16): If construction commences during the bird breeding season (March 1 through June 30), a preconstruction survey for nesting birds will occur within three days prior to construction activities by an experienced avian biologist. The preconstruction survey will be conducted anytime of year in all areas within and directly adjacent to the PQP and ARL. The survey will occur within all suitable nesting habitat within the project impact area and a 500-foot buffer where access is permitted. If nesting birds are found, an avoidance area will be established as appropriate by a qualified biologist around the nest until it has been determined that young have fledged or nesting activities have ceased. The project site will need to be re-surveyed if there is a lapse in construction activities for more than seven days during the nesting season.

BIO-14 (NESMI BIO-17): A preconstruction sweep will be conducted by a qualified biologist each morning prior to clearing/grubbing in areas of suitable habitat to support terrestrial wildlife. The goal of

the survey will be to identify any special-status species not covered by the MSHCP that may be present within the project footprint, and to remove the animal(s) from the project footprint as possible to avoid any injury or mortality.

BIO-15 (NESMI BIO-25): BUOW focused surveys were positive in 2018 in the BSA, the following actions will be taken prior to construction within all project areas:

- A 30-day pre-construction survey for burrowing owls is required prior to initial ground-disturbing activities (e.g., vegetation clearing, clearing and grubbing, tree removal, site watering) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities. Pre-construction surveys will be conducted in the morning one hour before sunrise to two hours after sunrise or in the early evening two hours before sunset to one hour after sunset within areas providing suitable habitat for BUOW. The survey will include the proposed project limits and a 500-foot buffer. If BUOW are present within 500 feet of project activities, then the following measures will be implemented, as applicable.
 - If BUOW has colonized the project site prior to the initiation of ground-disturbing activities, then the project proponent will immediately inform and coordinate further with the Wildlife Agencies and the RCA that the 30-day preconstruction survey is positive for BUOW, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. The Protection and Relocation Plan will provide any additional avoidance/minimization, relocation/exclusion, and monitoring methods that will be used, nest buffers, and any additional mitigation requirements, which may include the following:
 - If BUOWs are found outside of the project limits of disturbance but within 500-ft of project activities during pre-construction surveys during the nesting season, then BUOW will be fully avoided by establishing an appropriate buffer in coordination with CDFW. No work will occur within the buffered area until a qualified biologist has verified that BUOW young have fledged, or owls are no longer occupying the burrow.
 - If BUOW is found during pre-construction take avoidance surveys outside of the nesting season, then passive relocation by a qualified avian biologist will be conducted once it has been confirmed that pairing activities are not observed. Passive relocation efforts will be conducted in coordination with CDFW.
 - If construction activities have ceased or the site has been left undisturbed for more than 30 days, then a pre-construction survey must be repeated to ensure BUOW has not recolonized the site. If BUOW is found, then the same coordination described above will be necessary.

BIO-16 (NESMI BIO-22): During construction all culverts and wildlife crossings will be cleared of weedy vegetation, debris, and trash that may be obstructing the entrances and the immediate surrounding areas upstream and downstream, as necessary, and any crossings that are partially blocked will be cleared entirely such that they are fully open and functional (MSHCP Volume I, Section 7.5.2).

BIO-17 (NESMI BIO-19): The County will perform annual clearing of debris from all culverts within the drainage easements after construction.

BIO-18 (NESMI BIO-23): A Wildlife Fencing Plan will be developed and implemented for the proposed Bridge Street undercrossing. Final Wildlife Fencing Plans will include the following considerations at a minimum:

- guidelines on fencing design;
- access gate design;
- construction requirements for fence ends; and
- facilitation of escape opportunities.

The plan will be prepared by a qualified biologist and will use current resources based on the best available science and any requirements from the WRC MSHCP. The Wildlife Fencing Plan will shall be approved by WRCRCA, USFWS, and CDFW prior to construction.

Compensatory Mitigation

Compensatory mitigation options and mitigation ratios for impacts on riparian/riverine resources and P/QP are outlined below.

BIO-19 (NESMI BIO-12): Compensation for permanent impacts on P/QP lands and riparian/riverine resources will occur at a minimum 2:1 ratio for P/QP lands, minimum 3:1 ratio for riparian resources, and minimum 3:1 ratio for riverine resources. The compensation can be a combination of establishment (creation) and/or re-establishment¹ as long as there is no net loss of either P/QP lands/functions and values or riparian/riverine resources as applicable. Compensation for riparian/riverine resources shall occur through the purchase of mitigation bank credits through the Riverpark Mitigation Bank, permittee responsible mitigation, or other agency-approved location. The temporary impacts may be replaced through in-kind restoration at their current locations at no less than 1:1 ratio. Temporal losses will be addressed through a replacement ratio of 0.5:1 offsite.

BIO-20 (NESMI BIO-21): Compensation for permanent loss of conserved lands owned by CDFW (for both P/QP and MSHCP Additional Reserve Lands [ARL]) within the San Jacinto Wildlife Area and ARL owned by RCA will be accomplished through the acquisition of replacement lands at a minimum 1:1 ratio. These lands will be located contiguous to the existing conservation area and would not occur within lands which are already described for MSHCP conservation. A Habitat Mitigation and Monitoring Plan (HMMP) (**BIO-21 [NESMI BIO-20]**) will provide the detail for the restoration, creation, and/or enhancement that would occur on the selected site, if necessary. Acquisition lands must, at a minimum, provide equivalent habitat value to the lands which are impacted. This will ensure that the San Jacinto Wildlife Area remains whole and complete and RCA ARL outside the 128' take allowance are replaced. The County will coordinate with CDFW and/or RCA to identify suitable properties and ensure the criteria identified in this measure are met.

BIO-21 (NESMI BIO-20): An HMMP will be prepared for permanent and temporary impacts on P/QP conserved lands, Riparian/Riverine lands, ARL conserved lands, and all other lands requiring onsite restoration and/or off-site mitigation. Off-site mitigation lands shall be acquired for the replacement of P/QP conserved lands, ARL, and Riparian/Riverine lands that would be permanently removed by the

¹ If establishment and/or re-establishment credits are unavailable, permittee-responsible mitigation or other mitigation area provider may be used, or enhancement may be used instead; however, the mitigation ratio for permanent impacts may be higher and as approved by the agencies. That said, enhancement is not the preferred mitigation type.

proposed project. The plan will provide a 5-year restoration plan for off-site mitigation areas for P/QP and ARL replacement and any off-site permittee-responsible mitigation area, that will include baseline conditions of the off-site lands vegetation and habitat; removal of nonnative vegetation and/or debris; planting specifications (including plant/seed palette with native species); monitoring and maintenance requirements; frequency of monitoring; performance criteria (e.g., minimum percent cover of nonnatives and native species); and reporting requirements. Due to the high percentage of nonnative annual species within the footprint, performance standards will be developed based relative to current onsite habitat conditions and will include the specifications and performance criteria that will be used to demonstrate equivalent or superior habitat value after restoration.

For onsite temporary impacts of the conserved lands, the HMMP will also describe the baseline pre-project vegetation cover and soil compaction conditions; site preparation requirements including procedures and design specifications for post-construction scarifying and soil decompaction based on baseline pre-project soil compaction data; methods for hydroseeding with a native seed mix approved by RCA and agencies; methods for ongoing monitoring and County maintenance until impacts meet or exceed the baseline condition in order to ensure that temporary impact areas on P/QP lands are returned to their original condition or would provide a biological lift; remedial measures (e.g., additional hydroseeding); and reporting. The County will submit the HMMP to the RCA, USFWS, and CDFW for review and approval at least 60 days prior to initiating project activities that could impact P/QP lands.

Appendix F – MSHCP Special-Status Species with Potential to Occur

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
PLANTS				
Yucaipa Onion (<i>Allium marvinii</i>)	-/-1B.2/ MSHCP(b)	This perennial bulbiferous herb is found in clay soils within chaparral. Elevation ranges from 2,493 ft. to 3,494 ft. amsl. It blooms from April through May. Known to occur in the foothills of the San Bernardino Mountains near Beaumont and Calimesa (Roberts et al. 2004).	HA	<p>The rare plant study area occurs well outside the species known elevation range and suitable habitat does not occur within the study area. Therefore, this species is not reasonably expected to occur and does not pose a constraint to the project.</p> <p>MSHCP: This species is a Narrow Endemic Plant Species. The rare plant study area lies outside of the MSHCP survey area for this species (Area 8). Therefore, this species does not pose a constraint to the project and no further action is necessary.</p>
San Diego Ambrosia (<i>Ambrosia pumila</i>)	E/-1B.1/ MSHCP(b)	Perennial rhizomatous herb that occurs in open floodplain terraces or in the margins of vernal pool watersheds at low elevations generally less than 1600 feet. Associated with plant communities dominated by sparse non-native grasslands or ruderal habitat, chaparral, coastal scrub, vernal pools, and alkali playas. Blooming period is from April-October.	HA	<p>Suitable habitat does not occur within the study area. Therefore, this species is not reasonably expected to occur and does not pose a constraint to the project.</p> <p>MSHCP: This is a Narrow Endemic Plant Species (Area 3) for the project. However, no suitable habitat occurs within the rare plant study area. Therefore, the species is considered absent from the rare plant study area and no further action is necessary.</p>
Jaeger's Milk-vetch (<i>Astragalus pachypus</i> <i>var. jaegeri</i>)	-/-1B.1/ MSHCP	This perennial shrub is found in sandy or rocky soil within chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation ranges from 1,198 ft. to 3,199 ft. amsl. It blooms from December through June. Scarce and localized on steep sedimentary slopes in the San Jacinto Mountain foothills, Beaumont, Badlands, and near Vail lake (Roberts et al. 2004).	HP	<p>Suitable habitat is present within the rare plant study area. However, this species was not observed during focused surveys in the spring of 2017. Species considered absent and does not pose a constraint to the project.</p> <p>MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.</p>

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
San Jacinto Valley Crownscale (<i>Atriplex coronata</i> <i>var. notatior</i>)	E/-/1B.1/ MSHCP(d)	This annual herb is found in mesic and alkaline soils within playas, valley and foothill grassland, and vernal pools. Elevation ranges from 456 ft. to 1,640 ft. amsl. It blooms from April through August. Endemic to the alkaline flats of the San Jacinto River, Hemet, and the wetlands northwest of Lake Elsinore (Roberts et al. 2004).	HP	<p>Suitable habitat is present within the rare plant study area and established populations are known nearby. However, this species was not observed during focused surveys in the spring of 2017.</p> <p>MSHCP: The rare plant study area lies inside the MSHCP survey area for this species (Criteria Area 3); however, no individuals of this species were observed during the rare plant surveys in the spring of 2017. Therefore, the species is considered absent from the rare plant study area and no further action is necessary.</p>
Parish's Brittle scale (<i>Atriplex parishii</i>)	-/-/1B.1/ MSHCP(d)	This annual herb is found in alkaline soils within chenopod scrub, playas, and vernal pools. Elevation ranges from 82 ft. to 6,234 ft. amsl. It blooms from June through October. Occurs in alkaline flats along the San Jacinto River, west of Hemet, and near Winchester (Roberts et al. 2004).	HA	<p>Suitable habitat is present nearby and established populations occur nearby, increasing the probability of this species' presence. However, suitable habitat does not occur within the rare plant study area. Additionally, this species was not observed during focused surveys in the spring of 2017.</p> <p>MSHCP: The rare plant study area lies inside the MSHCP survey area for this species (Criteria Area 3); however, no individuals of this species were observed during the rare plant surveys in the spring of 2017 and suitable habitat does not occur within the rare plant study area. Therefore, the species is considered absent from the rare plant study area and no further action is necessary.</p>

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Davidson's Saltscale (<i>Atriplex serenana</i> <i>var. davidsonii</i>)	-/-/1B.2/ MSHCP(d)	This annual herb is found in alkaline and sandy soils within coastal bluff scrub and coastal scrub. Elevation ranges from 33 ft. to 656 ft. amsl. It blooms from April through October.	HA	<p>The rare plant study area occurs well outside the species known elevation range. Therefore, this species is not reasonably expected to occur and does not pose a constraint to the project.</p> <p>MSHCP: The rare plant study area lies inside the MSHCP survey area for this species (Criteria Area 3); however, no individuals of this species were observed during the rare plant surveys in the spring of 2017 and suitable habitat does not occur within the rare plant study area. Therefore, the species is considered absent from the rare plant study area and no further action is necessary.</p>
Nevin's Barberry (<i>Berberis nevinii</i>)	E/E/1B.1/ MSHCP(d)	This perennial evergreen shrub is very rare and local; found on steep north facing slopes or in low-grade sandy washes in chaparral, coastal sage scrub, riparian scrub, and cismontane woodland from 968 ft. to 2,700 ft. amsl. It blooms from February through June. In western Riverside County, known only in the vicinity of Vail Lake (Roberts et al. 2004).	HP	<p>Suitable habitat is present within the rare plant study area. However, this rare plant is only known to occur within the vicinity of Vail Lake. Additionally, this conspicuous shrub was not observed during focused surveys in the spring of 2017.</p> <p>MSHCP: The rare plant study area lies outside of the MSHCP survey area for this species (Criteria Areas 5 and 6); therefore, there is no survey requirement. Any potential impacts to the species would be fully mitigated by the MSHCP. No further action is necessary.</p>

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Thread-leaved Brodiaea (<i>Brodiaea filifolia</i>)	T/E/1B.1/ MSHCP(d)	This perennial bulbiferous herb is found in heavy soils (e.g., clay) in coastal sage scrub, chaparral, cismontane woodland, and vernal pools from 1,575 ft. to 4,000 ft. amsl. This species blooms from March through June. Within western Riverside County, found in southern Santa Ana Mountains, Santa Rosa Plateau, and alkali flats of the San Jacinto River flood plain and west of Hemet (Roberts et al. 2004).	HP	Suitable habitat is present within the rare plant study area and established populations are known nearby. However, this species was not observed during focused surveys in the spring of 2017. MSHCP: The rare plant study area lies inside the MSHCP survey area for this species (Criteria Area 3); however, no individuals of this species were observed during the rare plant surveys in the spring of 2017. Therefore, the species is considered absent from the rare plant study area and no further action is necessary.
Round-leaved Filaree (<i>California macrophylla</i>)	-/-1B.2/ MSHCP(d)	This annual herb is found in clay soils within cismontane woodland and valley and foothill grassland. Elevation ranges from 49 ft. to 3,937 ft. amsl. It blooms from March through May. Scarce and declining in Temescal Valley, near Lake Matthews, near Lake Skinner, and Oak Mountains near Vail Lake (Roberts et al. 2004).	HP	Suitable habitat is present within the rare plant study area. However, known populations do not occur in the area and this species was not observed during focused surveys in the spring of 2017. Species considered absent and does not pose a constraint to the project. MSHCP: The rare plant study area lies outside of the MSHCP survey area for this species (Criteria Area 1); therefore, there is no survey requirement. Any potential impacts to the species would be fully mitigated by the MSHCP. No further action is necessary.
Plummer's Mariposa Lily (<i>Calochortus plummerae</i>)	-/-4.2/ MSHCP(e)	This perennial bulbiferous herb is found on rocky and sandy areas with granitic or alluvial material in coastal sage scrub, chaparral, lower montane coniferous forest, cismontane woodland, and valley and foothill grasslands. Elevation ranges from 295 ft. to 5,280 ft. amsl. This species blooms from May through July.	HP	Suitable habitat is present within the rare plant study area. However, this species was not observed during focused surveys in the spring of 2017. MSHCP: No suitable habitat for this species occurs within the MSHCP portion of the rare plant study area. In addition, this species was not observed during focused surveys in the spring of 2017. Therefore, no MSHCP-specific conservation requirements are necessary and no further action is required.

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Payson's Jewelflower (<i>Caulanthus simulans</i>)	-/-/4.2/MSHCP	This annual herb is found in sandy and granitic soils within chaparral and coastal shrub. Elevation ranges from 295 ft. to 7,218 ft. amsl. This species blooms from March through May, uncommonly in February and June. Uncommon in the eastern foothills, especially in the vicinity of Aguanga and Vail Lake (Roberts et al. 2004).	HP	<p>Suitable habitat is present within the rare plant study area. However, known populations do not occur in the area and this species was not observed during focused surveys in the spring of 2017. Species considered absent and does not pose a constraint to the project.</p> <p>MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.</p>
Smooth Tarplant (<i>Centromadia pungens</i> ssp. <i>laevis</i>)	-/-/1B.1/ MSHCP(d)	This annual herb is found in association with fine or alkaline soils in seasonally wet chenopod scrub, meadows and seeps, playas, riparian woodland, fallow fields, drainage ditches, and moist situations within valley and foothill grasslands below 2,099 ft. amsl in elevation. This species blooms from April through September.	P	<p>This species is present within the rare plant study area. Approximately 355 individuals were observed during the 2017 rare plant focused surveys conducted for the project.</p> <p>MSHCP: The rare plant study area lies inside the MSHCP survey area for this species (Criteria Area 3). Several individuals of this species were observed during the rare plant surveys in the spring of 2017.</p>
Peninsular Spineflower (<i>Chorizanthe leptotheca</i>)	-/-/4.2/ MSHCP(e)	This annual herb is found in alluvial fan and granitic soils within chaparral, coastal scrub, and lower montane coniferous forest. Elevation ranges from 984 ft. to 6,234 ft. amsl. It blooms from May through August. Uncommon in alluvial benches at the base of the Santa Ana and Agua Tibia Mountains (Roberts et al. 2004).	HP	<p>Potentially suitable habitat is present within the rare plant study area. However, known populations do not occur in the area and this species was not observed during focused surveys in the spring of 2017.</p> <p>MSHCP: No suitable habitat for this species occurs within the MSHCP portion of the rare plant study area. In addition, this species was not observed during focused surveys in the spring of 2017. Therefore, no MSHCP-specific conservation requirements are necessary and no further action is required.</p>

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Parry's Spineflower (<i>Chorizanthe parryi</i> var. <i>parryi</i>)	-/-/1B.1/ MSHCP(e)	This annual herb is found in sandy or rocky openings within coastal scrub, cismontane woodland, valley and foothill grassland, and chaparral habitats at elevations ranging from 902 ft. to 4,002 ft. amsl. The blooming period for this species is from April through June. Occurs in the Santa Ana River Valley and Perris Basin (Roberts et al. 2004).	HP	<p>Suitable habitat is present within the rare plant study area and established populations are known nearby. However, this species was not observed during focused surveys in the spring of 2017.</p> <p>MSHCP: Suitable habitat for this species occurs within the MSHCP portion of the rare plant study area in the public/quasi-public conserved lands and San Jacinto wildlife area additional acquisition. However, this species was not observed during focused surveys in the spring of 2017. Therefore, no MSHCP-specific conservation requirements are necessary and no further action is required.</p>
Long-spined Spineflower (<i>Chorizanthe polygonoides</i> var. <i>longispina</i>)	-/-/1B.2/ MSHCP	This annual herb is found in clay soils within chaparral, coastal shrub, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation ranges from 98 ft. to 5,020 ft. amsl. This species blooms from April through July. Occurs in the vicinity of Temecula, Lake Skinner, and the foothills of the Agua Tibia Mountains (Roberts et al. 2004).	HP	<p>Suitable habitat is present within the rare plant study area. However, known populations do not occur in the area and this species was not observed during focused surveys in the spring of 2017. Species considered absent and does not pose a constraint to the project.</p> <p>MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.</p>

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Small-flowered Morning-glory (<i>Convolvulus simulans</i>)	-/4.2/MSHCP	This annual herb is found in openings in chaparral, coastal scrub, and valley and foothill grassland habitats in clay soil and serpentinite seeps. It occurs in elevations ranging from 98 ft. to 2,297 ft. amsl and blooms from March through July. Scarce in the Gavilan Hills, Temescal Valley, Murrieta, and Lake Skinner (Roberts et al. 2004).	HP	<p>Suitable habitat is present within the rare plant study area. However, known populations do not occur in the area and this species was not observed during focused surveys in the spring of 2017. Species considered absent and does not pose a constraint to the project.</p> <p>MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.</p>
Mojave Tarplant (<i>Deinandra mohavensis</i>)	-/E/1B.3/ MSHCP(e)	This annual herb is found in mesic soils within chaparral, coastal scrub, and riparian scrub. Elevation ranges from 3,000 ft. to 5,249 ft. amsl. This species blooms from June through October, also uncommonly blooms in May and November through January. Primarily occurs in the San Jacinto Mountains (Roberts et al. 2004).	HA	<p>The rare plant study area occurs well outside the species known elevation range. Therefore, this species is not reasonably expected to occur and does not pose a constraint to the project.</p> <p>MSHCP: No suitable habitat for this species occurs within the rare plant study area. In addition, this species was not observed during focused surveys in the spring of 2017. Therefore, no MSHCP-specific conservation requirements are necessary and no further action is required.</p>

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Slender-horned Spineflower (<i>Dodecahema leptoceras</i>)	E/E/1B.1/ MSHCP(b)	This annual herb is found on flood deposited fine sand terraces and washes in Riversidian alluvial fan sage scrub and is also associated with cismontane woodland and chaparral having suitable hydrology and fine sands. It is often associated with cryptogammic soils. It is known from elevations ranging from 656 ft. to 2,493 ft. amsl. Its blooming period ranges from April through June. Occurs at San Jacinto River, Bautista Canyon, Temescal Valley (Indian Canyon), Arroyo Seco-Kolb Creek drainages, north base of Agua Tibia Mountains, and south of Vail Lake (Roberts et al. 2004).	HP	Suitable habitat is present within the rare plant study area and established populations are known nearby. However, this species was not observed during focused surveys in the spring of 2017. Species considered absent and does not pose a constraint to the project. MSHCP: This species is a Narrow Endemic Plant Species. The rare plant study area lies outside of the MSHCP survey area for this species (Areas 1 and 5). Therefore, this species does not pose a constraint to the project and no further action is necessary.
Santa Ana River Woollystar (<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>)	E/E/1B.1/ MSHCP	A perennial herb known from a single extended but heavily fragmented population in Riverside and San Bernardino counties; it formerly extended into Orange County. An inhabitant of alluvial fan sage scrub in sandy to gravelly soils that can be found at elevations ranging from 450 ft. to 2,000 ft. amsl. It typically blooms from June through August.	HP	Suitable habitat is present within the rare plant study area and established populations are known nearby. However, this species was not observed during focused surveys in the spring of 2017. Species considered absent and does not pose a constraint to the project. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
San Jacinto Mountains Bedstraw (<i>Galium angustifolium ssp. jacinticum</i>)	-/-/1B.3/ MSHCP(b)	This perennial herb is found in lower montane coniferous forest. Elevation ranges from 4,429 ft. to 6,890 ft. amsl. This species blooms from June through August.	HA	<p>The rare plant study area occurs well outside the species known elevation range and suitable habitat does not occur within the study area. Therefore, this species is not reasonably expected to occur and does not pose a constraint to the project.</p> <p>MSHCP: This species is a Narrow Endemic Plant Species. The rare plant study area lies outside of the MSHCP survey area for this species (Area 6). Therefore, this species does not pose a constraint to the project and no further action is necessary.</p>
Vernal Barley (<i>Hordeum intercedens</i>)	-/-/3.2/MSHCP	This annual herb is found in mesic soils within coastal dunes, coastal scrub, valley and foothill grassland (in saline flats and depressions), and vernal pools. Elevation ranges from 16 ft. to 3,281 ft. amsl. This species blooms from March through June. Uncommon in the San Jacinto River floodplain and west of Hemet (Roberts et al. 2004).	HP	<p>Suitable habitat is present within the rare plant study area and established populations are known nearby. However, this species was not observed during focused surveys in the spring of 2017. Species considered absent and does not pose a constraint to the project.</p> <p>MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.</p>
Southern California Black Walnut (<i>Juglans californica</i>)	-/-/4.2/MSHCP	This perennial deciduous tree is found in riparian woodland, chaparral, coastal scrub, and cismontane woodland habitats in alluvial soils at elevations ranging from 164 ft. to 2,953 ft. amsl. It blooms from March to August. Most frequent along the Santa Ana River near Riverside (Roberts et al. 2004).	HP	<p>Suitable habitat is present within the rare plant study area. However, this species was not observed during focused surveys in the spring of 2017. Species considered absent and does not pose a constraint to the project.</p> <p>MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.</p>

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Coulter's Goldfields (<i>Lasthenia glabrata</i> <i>ssp. coulteri</i>)	-/-/1B.1/ MSHCP(d)	This wide-ranging annual herb is found in saline areas within coastal saltmarsh, inland playa, and vernal pool habitats at elevations ranging from sea level to 4,002 ft. amsl. It blooms from February through June. Common and sometimes abundant on seasonally flooded vernal alkali plains of the San Jacinto River and the Alberhill Creek wetlands, and less common near Hemet (Roberts et al. 2004).	HA	<p>Suitable habitat is present nearby and established populations occur nearby, increasing the probability of this species' presence. However, suitable habitat does not occur within the rare plant study area. Additionally, this species was not observed during focused surveys in the spring of 2017.</p> <p>MSHCP: The rare plant study area lies inside the MSHCP survey area for this species (Criteria Area 3); however, no individuals of this species were observed during the rare plant surveys in the spring of 2017 and suitable habitat does not occur within the rare plant study area. Therefore, the species is considered absent from the rare plant study area and no further action is necessary.</p>
Heart-leaved Pitcher Sage (<i>Lepechinia cardiophylla</i>)	-/-/1B.2/ MSHCP(d)	This perennial shrub is found in closed-cone coniferous forest, chaparral, and cismontane woodland. It occurs at elevations ranging from 1,280 ft. to 4,199 ft. amsl and blooms from April to July. Uncommon in the Santa Ana Mountains (Roberts et al. 2004).	HA	<p>Suitable habitat does not occur within the rare plant study area. Therefore, this species is not reasonably expected to occur and does not pose a constraint to the project.</p> <p>MSHCP: The rare plant study area lies outside of the MSHCP survey area for this species (Criteria Areas 7 and 8); therefore, there is no survey requirement. Any potential impacts to the species would be fully mitigated by the MSHCP. No further action is necessary.</p>

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Ocellated Humboldt Lily (<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>)	-/-/4.2/ MSHCP(f)	This perennial bulbiferous herb is found in openings in riparian woodland, coastal scrub, chaparral, cismontane woodland, and lower montane coniferous forest habitats at elevations ranging from 98 ft. to 5,905 ft. amsl. It blooms from March to August.	HP	<p>Suitable habitat is present within the rare plant study area. However, this species was not observed during focused surveys in the spring of 2017. Species considered absent and does not pose a constraint to the project.</p> <p>MSHCP: The rare plant study area lies outside of Forest Service Land; therefore, there is no survey requirement. Any potential impacts to the species would be fully mitigated by the MSHCP. No further action is necessary.</p>
Lemon Lily (<i>Lilium parryi</i>)	-/-/1B.2/ MSHCP(f)	This perennial bulbiferous herb is found in lower montane coniferous forest, meadows and seeps, riparian forest, and upper montane coniferous forest habitats in wet, mountainous terrain. It generally occurs in forested areas, on shady edges of streams and in open boggy meadows and seeps. Elevation ranges from 4,003 ft. to 9,006 ft. amsl and it blooms from July to August.	HA	<p>The rare plant study area occurs well outside the species known elevation range and suitable habitat does not occur within the study area. Therefore, this species is not reasonably expected to occur and does not pose a constraint to the project.</p> <p>MSHCP: The rare plant study area lies outside of Forest Service Land; therefore, there is no survey requirement. Any potential impacts to the species would be fully mitigated by the MSHCP. No further action is necessary.</p>
Hall's Monardella (<i>Monardella macrantha</i> ssp. <i>hallii</i>)	-/-/1B.3/ MSHCP	This perennial rhizomatous herb is found within broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland. Elevation ranges from 2,395 ft. to 7,201 ft. amsl. This species blooms from June through October. Uncommon on north-facing slopes in the Santa Ana and Agua Tibia Mountains (Roberts et al. 2004).	HA	<p>The rare plant study area occurs well outside the species known elevation range and suitable habitat does not occur within the study area. Therefore, this species is not reasonably expected to occur and does not pose a constraint to the project.</p> <p>MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.</p>

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Little Mousetail (<i>Myosurus minimus</i> <i>ssp. apus</i>)	-/-/3.1/ MSHCP(d)	This annual herb is found in alkaline soils within valley and foothill grassland and vernal pools. Elevation ranges from 66 ft. to 2,100 ft. amsl. This species blooms from March through June. Locally common in the alkaline vernal pools near Hemet, and scarce in Perris Basin and Santa Rosa Plateau (Roberts et al. 2004).	HP	<p>Suitable habitat is present in the rare plant study area and established populations occur nearby, increasing the probability of this species' presence. However, this species was not observed during focused surveys in the spring of 2017.</p> <p>MSHCP: The rare plant study area lies inside the MSHCP survey area for this species (Criteria Area 3); however, no individuals of this species were observed during the rare plant surveys in the spring of 2017. Therefore, the species is considered absent from the rare plant study area and no further action is necessary.</p>
Mud Nama (<i>Nama stenocarpa</i>)	-/-/2B.2/ MSHCP(d)	This annual/perennial herb is found in marshes, swamps, lake margins, and riverbanks. Elevation ranges from 16 ft. to 1,640 ft. amsl. This species blooms from January through July. Scarce, known only from the northern shores of Mystic Lake (Roberts et al. 2004).	HA	<p>Suitable habitat is present nearby and established populations occur nearby, increasing the probability of this species' presence. However, suitable habitat does not occur within the rare plant study area. Additionally, this species was not observed during focused surveys in the spring of 2017.</p> <p>MSHCP: The rare plant study area lies inside the MSHCP survey area for this species (Criteria Area 3); however, no individuals of this species were observed during the rare plant surveys in the spring of 2017 and suitable habitat does not occur within the rare plant study area. Therefore, the species is considered absent from the rare plant study area and no further action is necessary.</p>

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Spreading Navarretia (<i>Navarretia fossalis</i>)	T/-/1B.1/ MSHCP(d)	This annual herb is found within chenopod scrub, marshes and swamps, playas, and vernal pools. Elevation ranges from 98 ft. to 2,149 ft. amsl. This species blooms from April through June. Sometimes common in vernal wet areas along the San Jacinto River in the Lakeview-Perris area, vernal plains west of Hemet, and alkali wetlands near Elsinore. Scarce elsewhere in Perris Basin and Santa Rosa Plateau (Roberts et al. 2004).	HA	<p>Suitable habitat is present nearby and established populations occur nearby, increasing the probability of this species' presence. However, suitable habitat does not occur within the rare plant study area. Additionally, this species was not observed during focused surveys in the spring of 2017.</p> <p>MSHCP: The rare plant study area lies outside of the MSHCP survey area for this species (Criteria Area 7); therefore, there is no survey requirement. Any potential impacts to the species would be fully mitigated by the MSHCP. No further action is necessary.</p>
Wright's Trichocoronis (<i>Trichocoronis wrightii</i> var. <i>wrightii</i>)	-/-/2B.1/ MSHCP(b)	This annual herb is found in meadows and seeps, marshes and swamps, riparian forest, and alkaline vernal pools. Elevation ranges from 16 ft. to 1,427 ft. amsl. This species blooms from May through September. May be abundant in seasonally inundated areas with muddy substrate along the San Jacinto River (Roberts et al. 2004).	HA	<p>Suitable habitat is present nearby and established populations occur nearby, increasing the probability of this species' presence. However, suitable habitat does not occur within the rare plant study area. Additionally, this species was not observed during focused surveys in the spring of 2017. Species considered absent and does not pose a constraint to the project.</p> <p>MSHCP: This is a Narrow Endemic Plant Species (Area 3) for the project. However, no suitable habitat occurs within the rare plant study area. Therefore, the species is considered absent from the rare plant study area and no further action is necessary.</p>

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
CRUSTACEANS				
Vernal Pool fairy shrimp (<i>Branchinecta lynchi</i>)	T/-/-/MSHCP(a)	Restricted to seasonal vernal pools and prefers cool-water pools that have low to moderate dissolved solids. These vernal pools are unpredictable and often short lived.	HA	There is no vernal pool habitat within the BSA or otherwise any habitat that would contain standing water long enough to support this species' presence. MSHCP: Surveys may be required for this species under the MSHCP if suitable wetland habitat is present. However, no suitable habitat was found and therefore this species is considered absent from the BSA and no further action is necessary.
Riverside fairy shrimp (<i>Streptocephalus wootoni</i>)	E/-/-/MSHCP(a)	Found in shallow depressions containing a clay hard pan soil layer. Discontinuously distributed along coastal southern California and northern Baja California.	HA	There is no vernal pool habitat within the BSA or otherwise any habitat that would contain standing water long enough to support this species' presence. MSHCP: Surveys may be required for this species under the MSHCP if suitable wetland habitat is present. However, no suitable habitat was found and therefore this species is considered absent from the BSA and no further action is necessary.
AMPHIBIANS				
Southern Mountain Yellow-legged Frog (<i>Rana muscosa</i>)	E/E/-/ MSHCP(c)	This frog inhabits lakes, meadow streams, isolated pools, and sunny riverbanks in the Sierra Nevada Mountains and Transverse Ranges from 1,210 ft. to 12,010 ft. amsl elevation. Occurs in open stream and lake edges; a gentle slope up to a depth of 2-3 inches seems to be preferred. Rarely occurs where predatory fishes have been introduced. Always encountered within a few feet of water.	HA	No suitable habitat occurs within the BSA. Drainages occurring in the study area are ephemeral. MSHCP: The project occurs outside of the MSHCP survey area for this species. No MSHCP-specific surveys are required and no further action is necessary.

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Western Spadefoot (<i>Spea hammondi</i>)	-/CSC/-/ MSHCP	This toad is found primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools and seasonal ponds are essential for breeding and egg laying. It is found at sea level to 4,500 ft. amsl in elevation.	HP	Potentially suitable habitat is present in the nonnative grassland habitat in the central portion of the BSA. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.
REPTILES				
Orange-throated Whiptail (<i>Aspidoscelis hyperythra</i>)	-/-/MSHCP	This whiptail occurs in semi-arid bushy areas typically with loose soil and rocks, including washes, streamsides, rocky hillsides, and coastal chaparral. Elevation ranges from sea level to 2,000 ft. amsl.	HP	Suitable habitat is present within the fourwing saltbush scrub and brittle brush scrub, specifically on rocky slopes on the northeast side of the BSA. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.
Coastal Whiptail (<i>Aspidoscelis tigris stejnegeri</i>)	-/CSC/-/ MSHCP	This whiptail occurs in a wide variety of habitats in coastal and inland valleys and foothills, including coastal sage scrub, sparse grassland, and riparian woodland, in areas with sparse vegetation and open areas. Found from Ventura County to Baja California.	HP	Suitable habitat is present within the fourwing saltbush scrub, brittle brush scrub, scale broom scrub, and nonnative grassland habitat throughout the BSA. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Red-diamond Rattlesnake (<i>Crotalus ruber</i>)	-/CSC/-/ MSHCP	This rattlesnake inhabits arid scrub, coastal chaparral, oak and pine woodlands, rocky grassland, and cultivated areas.	HP	<p>Suitable habitat is present within the fourwing saltbush scrub, brittle brush scrub, scale broom scrub, nonnative grassland, and developed/disturbed habitat throughout the BSA.</p> <p>MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.</p>
Western Pond Turtle (<i>Emys marmorata</i>)	-/CSC/-/ MSHCP	This turtle is found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking.	HA	<p>No suitable habitat occurs within the BSA. Drainages occurring in the study area are seasonal in nature.</p> <p>MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.</p>
California Mountain Kingsnake (San Bernardino population) (<i>Lampropeltis zonata parvirubra</i>)	-/-/-/MSHCP(f)	This kingsnake is a habitat generalist, found in diverse habitats including coniferous forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, and coastal sage scrub. Elevation ranges from 800 ft. to 9,000 ft. amsl.	HA	<p>This species is typically found in montane habitats. The project is far removed from its typical distribution range and suitable habitat is not present on the site.</p> <p>MSHCP: The BSA lies outside of Forest Service Land; therefore, there is no survey requirement. Any potential impacts to the species would be fully mitigated by the MSHCP. No further action is necessary.</p>

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Coast Horned Lizard (<i>Phrynosoma blainvillii</i>)	-/CSC/-/ MSHCP	This horned lizard inhabits open areas of sandy soil and low vegetation in valleys, foothills, and semiarid mountains. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills. Elevation ranges from sea level to 8,000 ft. amsl.	HP	Suitable habitat is present in nonnative grassland and several washes containing sandy soil throughout the BSA. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.
BIRDS				
Cooper's Hawk (<i>Accipiter cooperii</i>)	-/-/MSHCP	This raptor occurs in mature forest, open woodlands, wood edges, and river groves. Nests in coniferous, deciduous, and mixed woods, typically those with tall trees and with openings or edge habitat nearby. Also found along trees along rivers through open country, and increasingly in suburbs and cities where some tall trees exist for nest sites. In winter may be in fairly open country, especially in the west. Nest site is in trees, either deciduous or coniferous, usually 25-50 ft. above the ground. Often placed on top of some pre-existing foundation, such as the old nest of a large bird or squirrel, or a clump of mistletoe.	P	This species was incidentally observed on-site during project surveys. Low-potential nesting habitat is present in developed areas and black willow thickets within the BSA, in large trees. Suitable foraging habitat occurs in adjacent areas within native scrub and nonnative grassland habitat in the BSA. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Tricolored Blackbird (<i>Agelaius tricolor</i>)	-/CSC/-/ MSHCP	This blackbird occurs in open country in western Oregon, California, and northwestern Baja California. Breeds near freshwater, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow (<i>Salix</i> spp.), blackberry (<i>Rubus</i> spp.), wild rose (<i>Rosa</i> spp.), tall herbs and forages in grassland and cropland habitats. Seeks cover for roosting in emergent wetland vegetation, especially cattails (<i>Typha</i> spp.) and tules (<i>Scirpus</i> spp.), and also in trees and shrubs.	P	A medium-sized flock of Tricolored Blackbirds was observed foraging in a disked field within the BSA in March 2018. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.
Southern California Rufous-crowned Sparrow (<i>Aimophila ruficeps canescens</i>)	-/-/-/MSHCP	This sparrow occurs in grassy or rocky slopes with sparse low bushes, and open pine-oak woods. Habitat varies in different parts of range, but always in brushy areas. In Southwest, usually in rocky areas of foothills and lower canyons, in understory of pine-oak woods, or in chaparral or coastal scrub.	HP	Suitable nesting habitat is present within the fourwing saltbush scrub and brittle brush scrub, specifically on rocky slopes on the northeast side of the BSA. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	-/CSC/-/MSHCP	Commonly found within tall, dense grasslands, prairies and hayfields.	HA	The low nonnative grasslands in the study area are low quality with high cover of invasive and weedy species. Due to vicinity of the road. This species is not expected to breed in the study area.

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Golden Eagle (<i>Aquila chrysaetos</i>)	-/FP/-/MSHCP	This raptor forages in grassland and open savannah of many types. It tolerates considerable variation in topography and elevation. It prefers to hunt moderate-sized prey, especially California Ground Squirrels (<i>Spermophilus beecheyi</i>) and rabbits, but will occasionally take larger prey, such as Mule Deer (<i>Odocoileus hemionus</i>) fawns. Nests on cliffs of all heights, and occasionally in large trees in open areas, in rugged, open habitats with canyons and escarpments. It is very sensitive to human disturbance, especially near nest sites.	HP	Suitable nesting habitat does not exist within the BSA. Suitable foraging habitat occurs within nonnative grassland habitat in the central portion of the BSA. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.
Bell's Sage Sparrow (<i>Artemisiospiza belli belli</i>)	-/-/-/MSHCP	This sparrow occurs in coastal sage scrub, chaparral; in winter, also deserts. Found year-round in unique sage scrub habitat on the California coastal slope and foothills. In the interior, also breeds in saltbush, chamise, and other low shrubs of arid flats. In winter some spread eastward into open flats and deserts with scattered brush.	HP	Suitable nesting habitat is present within the fourwing saltbush scrub and brittle brush scrub, specifically on rocky slopes on the northeast side of the BSA. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Burrowing Owl (<i>Athene cunicularia</i>)	-/CSC/-/ MSHCP(c)	This owl inhabits open, dry, nearly or quite level, grassland, prairie, desert floor, and shrubland habitats. Areas should be considered potential habitat if shrub cover is below 30% (CBOC 1997). In coastal southern California, a substantial fraction of birds are found in microhabitats highly altered by man, including flood control and irrigation basins, dikes, and banks, abandoned fields surrounded by agriculture, and road cuts and margins. There is a strong association between Burrowing Owls and burrowing mammals, especially ground squirrels (<i>Spermophilus</i> spp.); however, they will also occupy man-made niches such as banks and ditches, piles of broken concrete, and even abandoned structures (Haug et al. 1993).	P	This species was observed in the BSA during protocol surveys in March 2018. MSHCP: The project occurs within the MSHCP Survey Area for this species. As such, MSHCP-specific surveys are required.
Ferruginous Hawk (<i>Buteo regalis</i>)	-/-/MSHCP	This raptor occurs in plains and prairies. Found at all seasons in very open and dry country. Inhabits dry grassland, sagebrush plains, saltbush and greasewood flats, rangeland, and desert. In winter, also in agricultural country, including over plowed fields. Nest site is usually in top of tree, 20-50 ft. above the ground, but can be as low as 6 ft. (available trees may be very short). Sometimes nests on a cliff or on the ground.	HP	Potentially suitable wintering habitat is present in nonnative grassland and disturbed areas throughout the BSA, particularly where the disturbed habitat is present in agricultural areas. This species was observed a short distance outside of the BSA in March 2018. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Swainson's Hawk (<i>Buteo swainsoni</i>)	-/T/-/MSHCP	This raptor is a breeding migrant from April to July. Suitable breeding habitat consists of areas containing Joshua trees, Fremont cottonwoods, or other large trees located adjacent to open fields, including agricultural fields. Forages in open desert, grasslands, agricultural fields, or livestock pastures.	P	<p>Suitable nesting habitat does not exist within the BSA. Suitable foraging habitat occurs within nonnative grassland, disturbed, and developed areas throughout the BSA. This species was observed within the BSA during migration.</p> <p>MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.</p>
Coastal Cactus Wren (<i>Campylorhynchus brunneicapillus sandiegensis</i>)	-/CSC/-/MSHCP	This wren is a non-migratory, obligate resident within a subset of coastal sage scrub habitats; require the presence of, but are not entirely restricted within, relatively arborescent (over 3 ft. tall) stands of several species of cactus (<i>Opuntia</i> spp.).	A	<p>Per CDFW, this sensitive subspecies of cactus wren only occurs in coastal Orange and San Diego Counties. The occurrence near the project area is assumed to be an error in the CNDDDB. Marginally suitable nesting habitat for general cactus wrens is present in several isolated California cholla (<i>Cylindropuntia californica</i>) stands found within brittle brush scrub in the foothills on the northeast side of the BSA.</p> <p>MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.</p>
Western Yellow-billed Cuckoo (<i>Coccyzus americanus occidentalis</i>)	T/E/-/MSHCP(a)	This cuckoo breeds and nests in extensive stands of dense cottonwood/willow riparian forest along broad, lower flood bottoms of larger river systems at scattered locales in western North America. Winters in South America.	HA	<p>Suitable habitat does not exist within the BSA. Drainages occurring in the study area are seasonal in nature and do not contain the necessary extensive riparian habitat.</p> <p>MSHCP: This species is a Riparian/Riverine Area and Species-Specific Objectives species. No suitable habitat is present within the study area. Therefore, there is no MSHCP-survey requirement and no further action is necessary.</p>

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Black Swift (<i>Cypseloides niger</i>)	-/CSC/-/ MSHCP	This swift occurs in open sky over mountains and coastal cliffs. This species forages widely over any kind of terrain but is still very local in its occurrence, probably limited to regions with suitable nesting sites. Nest site is on a ledge sheltered by overhang or in a protected crevice on a cliff, along the rocky coast or in mountainous country. Mountain nest sites are often behind waterfalls, in spots where nest is continuously damp from spray.	HA	Suitable nesting habitat does not exist within the BSA. Mountains, cliffs, and waterfalls are not present within the study area.
White-tailed Kite (<i>Elanus leucurus</i>)	-/FP/-/MSHCP	This raptor hunts in open country. This is a strongly lowland species, apparently rare anywhere in California above 2,000 ft. amsl. Nests are flimsy and are located low in trees and large shrubs near foraging areas in savannahs and at edges between open habitat and woodland or forest areas. Its diet is largely restricted to small mammals such as voles and mice.	P	Potentially suitable nesting habitat is present in developed areas and black willow thickets within the BSA, in large trees. Suitable foraging habitat occurs in adjacent areas within fourwing saltbush scrub, brittle brush scrub, nonnative grassland, disturbed, and developed areas throughout the BSA. This species was observed within the BSA during biological surveys. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Southwestern Willow Flycatcher (<i>Empidonax traillii extimus</i>)	E/E/-/ MSHCP(a)	This flycatcher has a highly restricted distribution in southern California as a breeder. It occupies extensive riparian forests, wet meadows, and lower montane riparian habitats primarily below 4,000 ft. amsl. Occurs in riparian habitats along rivers, streams, or other wetlands, where dense growths of willows (<i>Salix</i> spp.), <i>Baccharis</i> spp., Arrowweed (<i>Pluchea</i> spp.), buttonbush (<i>Cephalanthus</i> spp.), tamarisk (<i>Tamarix</i> spp.), Russian olive (<i>Eleagnus</i> spp.), or other plants are present, often with a scattered overstory of cottonwood (<i>Populus</i> spp.).	HA	Suitable habitat does not exist within the BSA. Drainages occurring in the study area are seasonal in nature and do not contain the necessary extensive riparian or wetland habitat. MSHCP: This species is a Riparian/Riverine Area and Species-Specific Objectives species. No suitable habitat is present within the study area. Therefore, there is no MSHCP-survey requirement and no further action is necessary.
California Horned Lark (<i>Eremophila alpestris actia</i>)	-/-/MSHCP	This lark occurs in prairies, fields, airports, and shores. Inhabits open ground, generally avoiding areas with trees or even bushes. May occur in a wide variety of situations that are sufficiently open: short-grass prairies, extensive lawns (as on airports or golf courses), plowed fields, stubble fields, beaches, lake flats, or high mountains.	P	This species was incidentally observed on-site during project surveys. Potentially suitable nesting and foraging habitat is present in open areas within nonnative grassland, disturbed, and developed areas on the southwest side of the BSA. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.
Yellow-breasted Chat (<i>Icteria virens</i>)	-/CSC/-/ MSHCP	This chat nests in low thickets in dense riparian habitats. It eats a variety of invertebrates. It is a local and uncommon breeder and rare migrant across southern California.	HA	Suitable habitat does not exist within the BSA. Drainages occurring in the study area are seasonal in nature and do not contain the necessary dense riparian habitat. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	-/CSC/-/ MSHCP	This shrike nests in broken woodlands, savannah, pinyon-juniper, Joshua tree, riparian woodlands, desert oasis scrub, and washes. Prefers open country for hunting, with perches for scanning and fairly dense shrubs and brush for nesting.	P	<p>This species was observed nesting within the BSA during project surveys in 2018. Potentially suitable nesting habitat is present in native scrub areas, as well as in low-growth trees found throughout the BSA. Suitable foraging habitat occurs in adjacent areas within fourwing saltbush scrub, brittle brush scrub, nonnative grassland, disturbed, and developed areas throughout the BSA.</p> <p>MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.</p>
White-faced Ibis (<i>Plegadis chihi</i>)	-/-/MSHCP	This ibis occurs in fresh marshes, irrigated land, and tules. For foraging, favors very shallow water, as in marshes, flooded pastures, and irrigated fields. Sometimes in damp meadows with no standing water. Prefers fresh water marsh, but sometimes forages in salt marsh. Breeds in colonies. Nest site is usually in dense marsh growth (such as bulrush or cattails) or in low shrubs or trees above water, sometimes on ground on islands.	HA	<p>Suitable nesting habitat, in the form of wetlands, does not exist within the BSA. Potentially suitable foraging habitat occurs within pastureland in the southwest/central area of the BSA.</p> <p>MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.</p>
Coastal California Gnatcatcher (<i>Poliophtila californica californica</i>)	T/CSC/-/ MSHCP	This gnatcatcher is a year-round obligate, permanent resident of coastal sage scrub vegetation on mesas, arid hillsides, and in washes. Nests almost exclusively in California sagebrush. Occurs in low-lying foothills and valleys in cismontane southwestern California and Baja California.	P	<p>This species was incidentally observed on-site during project surveys. Potentially suitable nesting and foraging habitat is present in fourwing saltbush scrub and, especially, brittle brush scrub found throughout the BSA.</p> <p>MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.</p>

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Purple Martin (<i>Progne subis</i>)	-/CSC/-/ MSHCP	This swallow occurs in towns, farms, semi-open country near water, and mountain forest. Nests in isolated colonies around woodland edges and clearings in mountain forest. Natural sites are in cavities, mostly old woodpecker holes, in trees.	HA	Suitable nesting and foraging habitat is not present - the required water habitat does not exist within or near the BSA MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.
Yellow Warbler (<i>Setophaga petechia</i>)	-/CSC/-/ MSHCP	This warbler nests in the upper story of riparian habitats in southern California. It is also a common, widespread migrant in spring and fall, occupying a wide variety of habitats at that time.	P	This species was incidentally observed on-site during project surveys. However, suitable breeding habitat does not exist within the BSA. Drainages occurring in the study area are seasonal in nature and do not contain the necessary extensive riparian habitat. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.
Least Bell's Vireo (<i>Vireo bellii pusillus</i>)	E/E/-/ MSHCP(a)	This vireo is found as a summer resident of southern California where it inhabits low riparian growth in the vicinity of water or in dry river bottoms below 2,000 ft. amsl. This species selects dense vegetation low in riparian zones for nesting; most frequently located in riparian stands between 5 and 10 years old; when mature riparian woodland is selected, vireos nest in areas with a substantial robust understory of willows, as well as other plant species (Goldwasser 1981).	HA	Suitable habitat does not exist within the BSA. Drainages occurring in the study area are seasonal in nature and do not contain the necessary extensive riparian habitat. MSHCP: This species is a Riparian/Riverine Area and Species-Specific Objectives species. No suitable habitat is present within the study area. Therefore, there is no MSHCP-survey requirement and no further action is necessary.

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
MAMMALS				
Northwestern San Diego Pocket Mouse (<i>Chaetodipus fallax fallax</i>)	-/CSC/-/ MSHCP	This pocket mouse occurs in sandy herbaceous areas, usually in association with rocks and coarse gravel in southwest California- coastal and desert border areas in San Bernardino, Riverside, and San Diego counties. Elevation ranges from sea level to 6,000 ft. amsl. Vegetation community preferences include sage scrub, chamise-redshank chaparral, mixed chaparral, sage brush, desert wash, desert scrub, desert succulent scrub, pinyon-juniper, and annual grassland.	P	This species was captured in the BSA during small mammal trapping. Suitable habitat for this species occurs within nonnative grassland and, especially, brittle brush scrub throughout the BSA. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.
San Bernardino Kangaroo Rat (<i>Dipodomys merriami parvus</i>)	E/CSC/-/ MSHCP(c)	This kangaroo rat prefers soils of sandy loam, occasionally to sandy gravel, in open to moderately shrubby habitats, especially intermediate seral stages of alluvial fan sage scrub up to 1,970 ft. amsl from active channels.	A	Trapping surveys were conducted in summer and fall 2017 and were negative. This species is presumed absent from the BSA. MSHCP: A few acres within the MSHCP survey area for this species are located along the east end of the BSA. As such, MSHCP-specific surveys will be required.
Stephens' Kangaroo Rat (<i>Dipodomys stephensi</i>)	E/T/-/MSHCP	This kangaroo rat is found almost exclusively in open grasslands or sparse shrublands with cover of less than 50% during the summer. Avoids dense grasses and is more likely to inhabit areas where the annual forbs disarticulate in the summer and leave more open areas. Typically found in sandy and sandy loam soils with low clay to gravel content for burrowing; will sometimes utilize the burrows of other mammals. Tends to avoid rocky soils. In general, the highest abundances of species occur on gentle slopes less than 15%.	HP	Potentially suitable habitat for this species occurs within open areas in throughout the BSA. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
San Bernardino Flying Squirrel (<i>Glaucomys sabrinus californicus</i>)	-/CSC/-/ MSHCP(e)	This flying squirrel occurs in black oak or white fir dominated woodlands between 5,200 ft. to 8,500 ft. amsl in the San Bernardino and San Jacinto ranges. Needs cavities in trees/snags for nests and cover.	HA	The BSA occurs well outside this species known elevation range and does not contain suitable habitat. Therefore, this species is not reasonably expected to occur and does not pose a constraint to the project. MSHCP: No suitable habitat for this species occurs within the BSA. Therefore, no MSHCP-specific conservation requirements are necessary and no further action is required.
San Diego Black-tailed Jackrabbit (<i>Lepus californicus bennettii</i>)	-/CSC/-/ MSHCP	This jackrabbit occurs in Los Angeles, Riverside, San Bernardino, and San Diego counties in herbaceous and desert shrub areas, sage scrub, grasslands, open chaparral, and woodland/forest areas. Relatively tolerant of disturbance.	P	This species was incidentally observed on-site during project surveys. Suitable habitat for this species occurs within nonnative grassland, fourwing saltbush scrub, brittle brush scrub, developed, and disturbed areas throughout the BSA. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.
San Diego Desert Woodrat (<i>Neotoma lepida intermedia</i>)	-/CSC/-/ MSHCP	This woodrat occurs in dry and/or sunny shrublands, especially (but not requiring) areas with cacti and abundant rocks and crevices. Does not require a source of drinking water. Sage scrub communities are frequently occupied.	P	This species was captured in the BSA during small mammal trapping. Marginally suitable habitat for this species occurs within fourwing saltbush and brittle brush scrub throughout the BSA. MSHCP: This species is fully covered by the MSHCP and, as such, any potential impacts would be fully mitigated by the MSHCP. No MSHCP-specific surveys are required and no further action is necessary.

COMMON/ SCIENTIFIC NAME	STATUS FEDERAL/ STATE/CRPR/ MSHCP ^a	SPECIES REQUIREMENTS	SPECIFIC HABITAT PRESENT/ ABSENT ^b	RATIONALE
Los Angeles Pocket Mouse (<i>Perognathus longimembris brevinasus</i>)	-/CSC/-/ MSHCP(c)	This pocket mouse inhabits areas of open ground, prefers fine sandy soils (for burrowing), but is also found commonly on gravel washes and on stony soils, within brush and woodland habitats. It is rarely found on sites with a high cover of rocks.	A	Trapping surveys were conducted in summer and fall 2017 and were negative. This species is presumed absent from the BSA. MSHCP: The project occurs within the MSHCP Survey Area for this species. As such, MSHCP-specific surveys will be required.

^a Status Codes

Federal

E = Federally listed; Endangered
PE = Proposed Endangered
T = Federally listed; Threatened
FC = Federal Candidate for Listing
FSC = Federal Species of Concern
D = Delisted

State

T = State listed; Endangered
E = State listed; Threatened
SC = State Candidate for Listing
R = Rare (Native Plant Protection Act)
CSC = California Species of Special Concern
FP = California Fully Protected Species

Multiple Species Habitat Conservation Plan (MSHCP)

MSHCP = No additional action necessary
MSHCP(a) = Surveys may be required as part of wetlands mapping
MSHCP(b) = Surveys may be required within the Narrow Endemic Plant Species survey area
MSHCP(c) = Surveys may be required within locations shown on survey maps
MSHCP(d) = Surveys may be required within Criteria Area
MSHCP(e) = Conservation requirements identified in species-specific conservation objectives need to be met before classified as a Covered Species
MSHCP(f) = These Covered Species will be considered to be Covered Species Adequately Conserved when a Memorandum of Understanding is executed with the Forest Service that addresses management for these species on Forest Service Land.

California Rare Plant Ranks (CRPR)

1A = Plants presumed extinct in California
1B = Plants rare, threatened, or endangered in California and elsewhere
2 = Plants rare, threatened, or endangered in California, but more common elsewhere
3 = Plants about which we need more information
4 = Limited distribution (Watch List)
0.1 = Seriously endangered in California
0.2 = Fairly endangered in California
0.3 = Not very endangered in California
CNDDB = Vegetation communities classified as depleted

^b Habitat Presence/Absence Codes

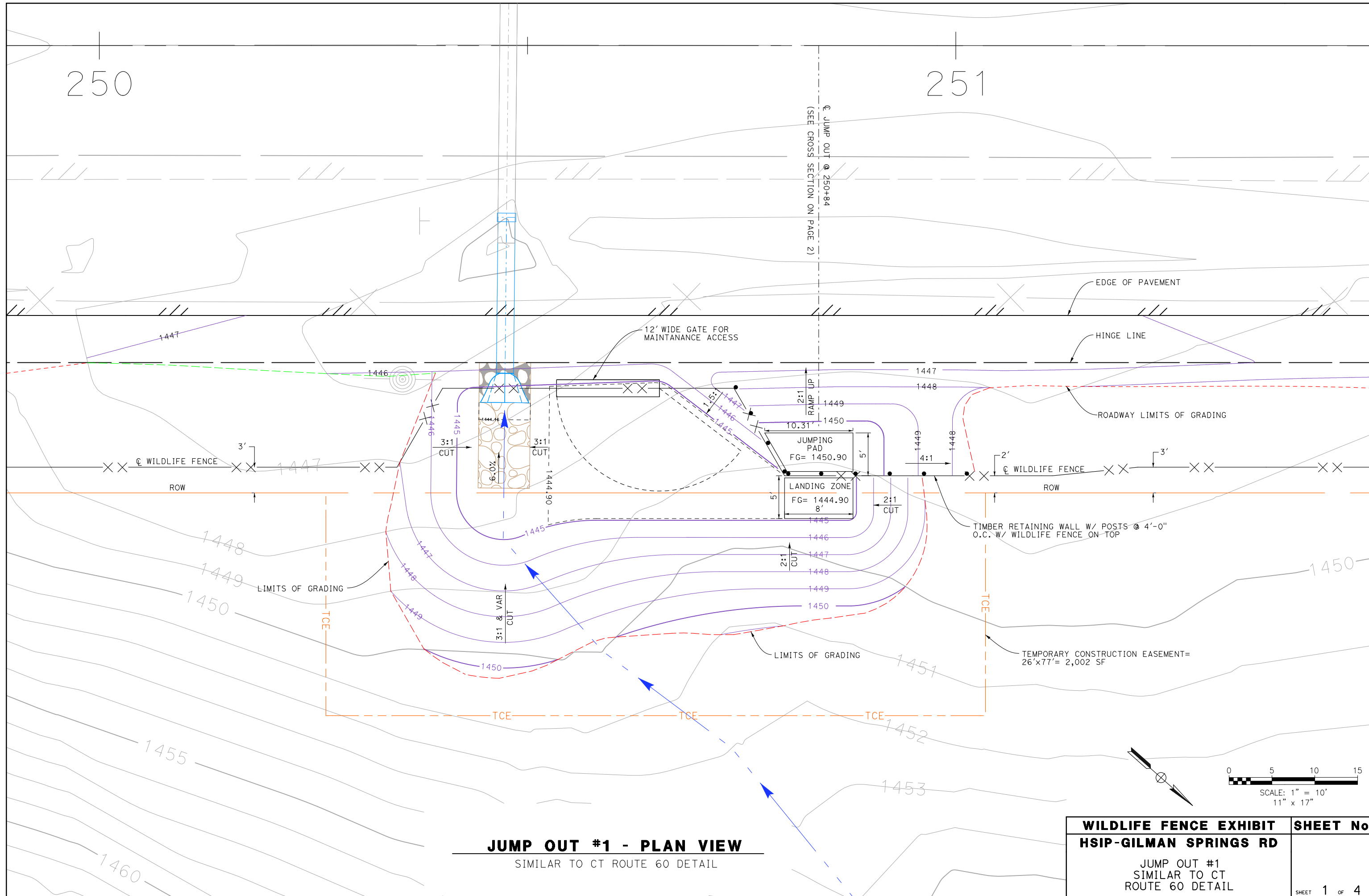
P = The species is present.
HP =Habitat is or may be present. The species may be present.
HA = No habitat present and no further work needed.
A = This species is absent.

Appendix G – Jumpout Designs

250

251

CL JUMP OUT @ 250+84
(SEE CROSS SECTION ON PAGE 2)



JUMP OUT #1 - PLAN VIEW
SIMILAR TO CT ROUTE 60 DETAIL

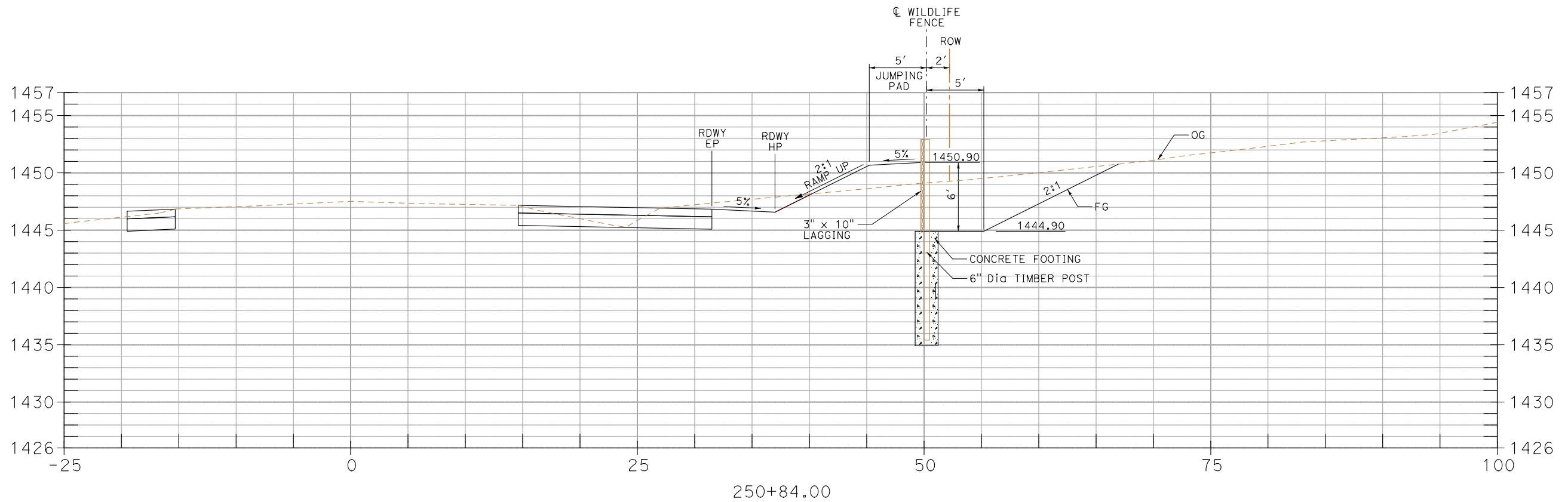
WILDLIFE FENCE EXHIBIT	SHEET No.
HSIP-GILMAN SPRINGS RD	
JUMP OUT #1 SIMILAR TO CT ROUTE 60 DETAIL	
	SHEET 1 OF 4

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WO C2-0161

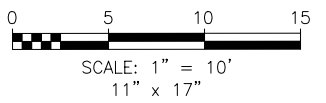
COUNTY
FILE No.

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TIME PLOTTED => \$TIME



JUMP OUT #1 - PROFILE VIEW

SIMILAR TO CT ROUTE 60 DETAIL



WILDLIFE FENCE EXHIBIT	SHEET No.
HSIP-GILMAN SPRINGS RD	
JUMP OUT #1 SIMILAR TO CT ROUTE 60 DETAIL	
	SHEET 2 OF 4

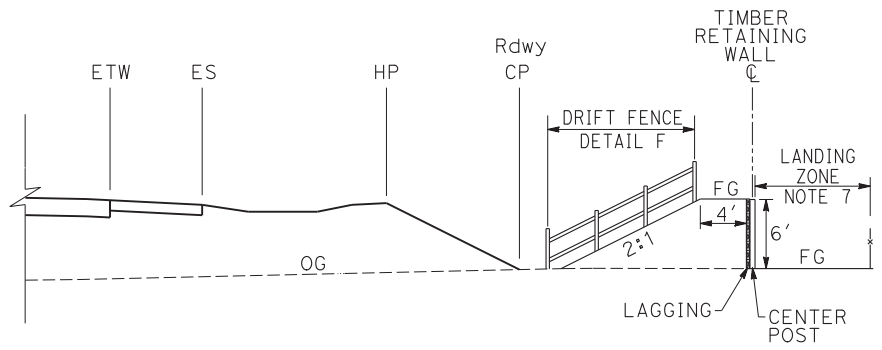
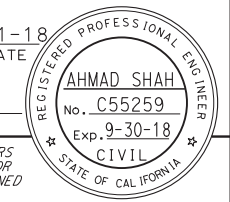
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WO C2-0161

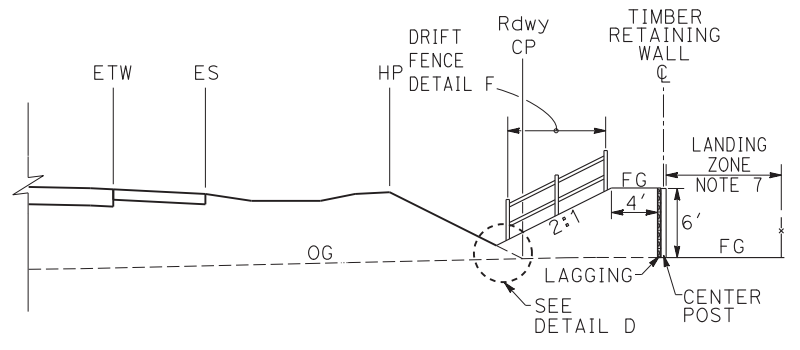
COUNTY
FILE No.

DATE PLOTTED => \$DATE
TIME PLOTTED => \$TIME
LAST REVISION
00-00-00

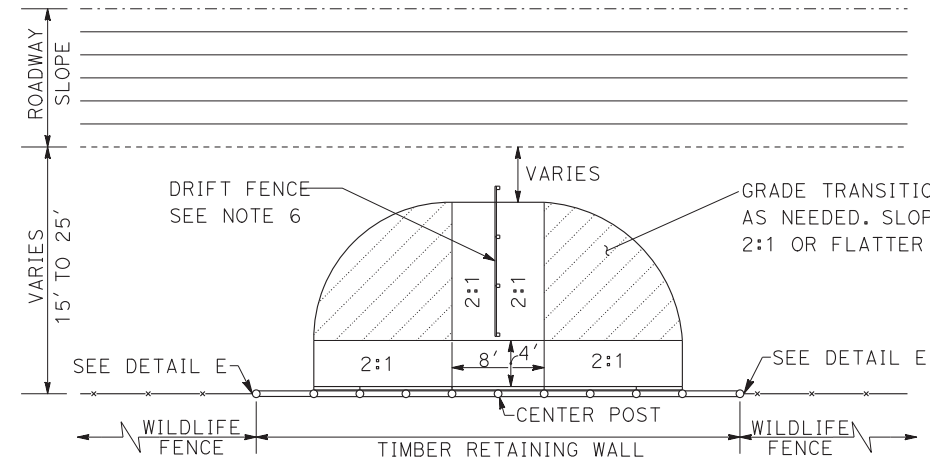
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60	22.1/26.6	68	680
			8-1-18	REGISTERED CIVIL ENGINEER DATE	
			8-15-18	PLANS APPROVAL DATE	
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



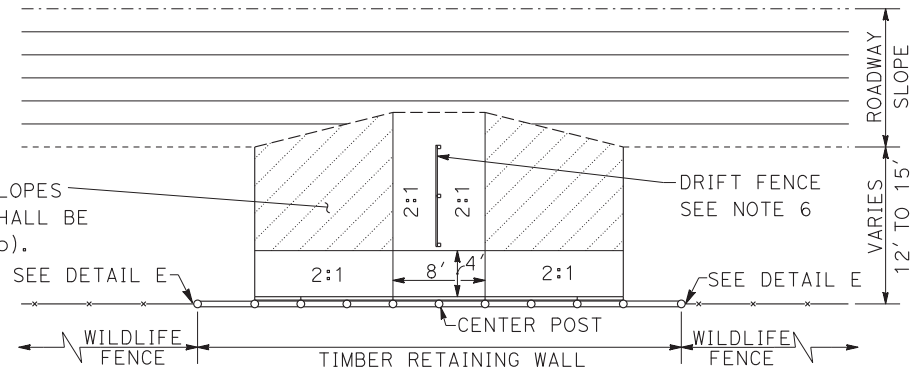
TYPICAL SECTION
AT CENTER POST



TYPICAL SECTION
AT CENTER POST



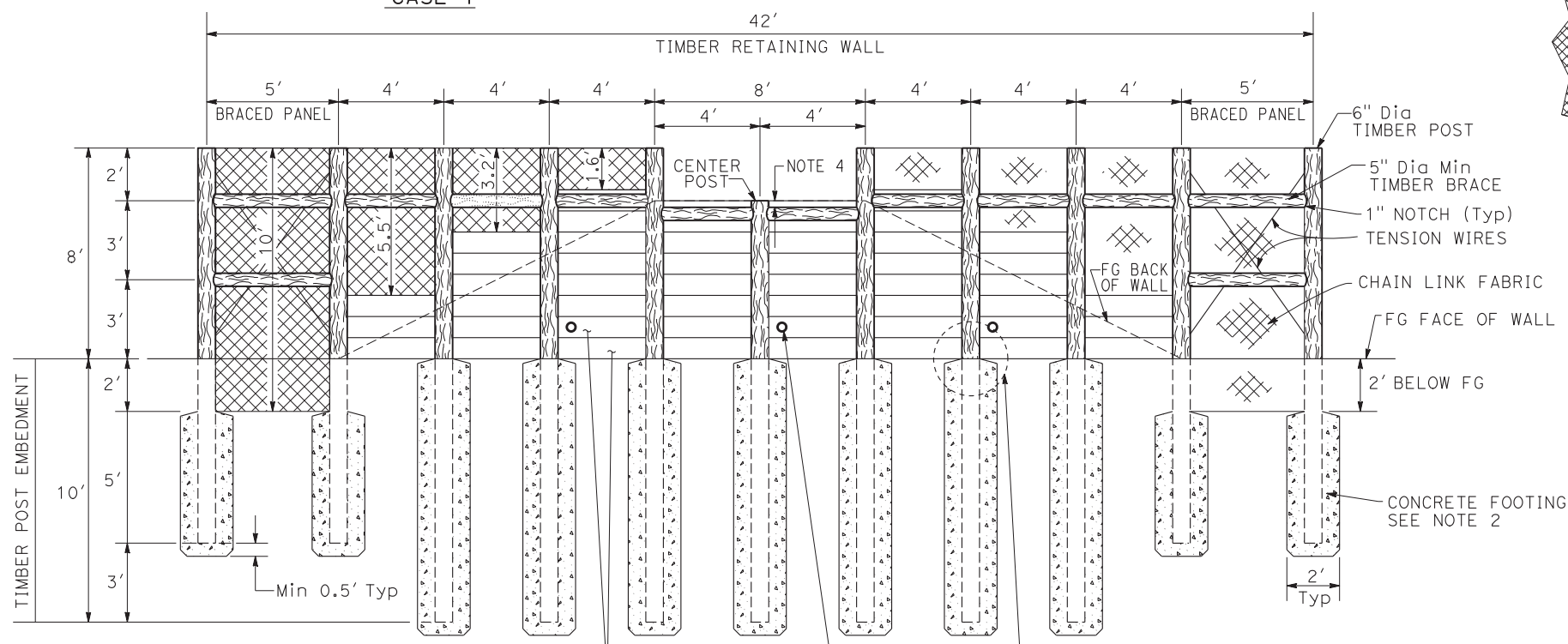
PLAN VIEW
CASE 1



PLAN VIEW
CASE 2

NOTES:

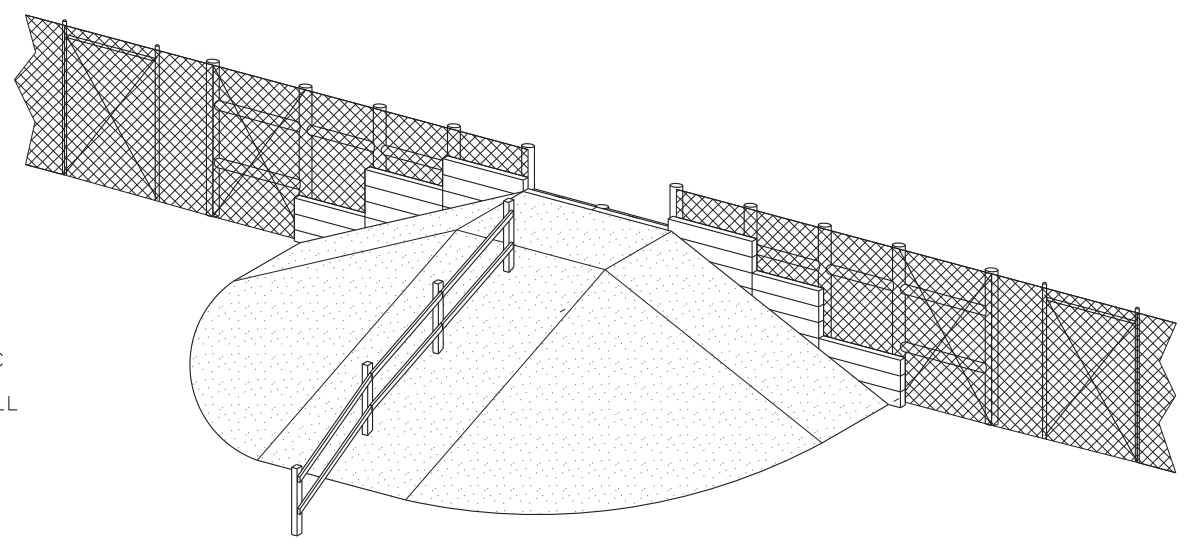
1. WALL LAYOUT LINE IS A MINIMUM OF 1' LEFT OF THE WILDLIFE FENCE LAYOUT LINE OR AS DIRECTED BY THE ENGINEER. SEE DETAIL A ON SHEET C-21.
2. CONCRETE FOOTING MUST BE A MINIMUM DISTANCE OF 6" FROM THE R/W LINE.
3. TIMBER LAGGING IS 3"X10" NOMINAL AND SHALL BE CONNECTED WITH LAG SCREWS RATHER THAN NAILS.
4. DISTANCE BETWEEN TOP OF LAGGING AND TOP OF HORIZONTAL BRACE MUST BE 0.25'.
5. FINISHED HEIGHT OF BACKFILL/TOPSOIL SHALL BE 2" ABOVE LAGGING.
6. DRIFT FENCE SHALL BE INSTALLED PERPENDICULAR TO TIMBER RETAINING WALL. SEE DETAIL F ON SHEET C-21.
7. LANDING ZONE SHALL BE FLAT, STABLE AND EARTHEN. THE AREA SHALL BE VOID OF OBJECTS THAT MAY HINDER OR ENDANGER WILDLIFE.
8. FOR DETAILS A THROUGH F SEE SHEET C-21.



ELEVATION VIEW

TIMBER RETAINING WALL
(WILDLIFE ESCAPE RAMP)

SEE TABLE FOR GATE LOCATIONS



ISOMETRIC VIEW
(CASE 1 SHOWN)

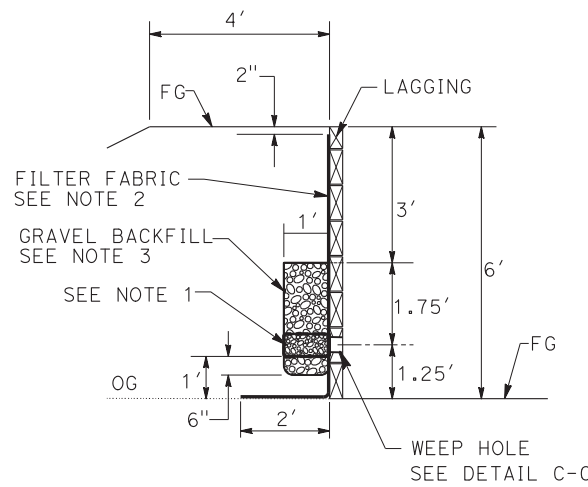
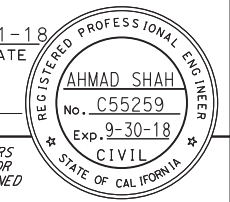
CONSTRUCTION DETAILS
WILDLIFE FENCE

NO SCALE

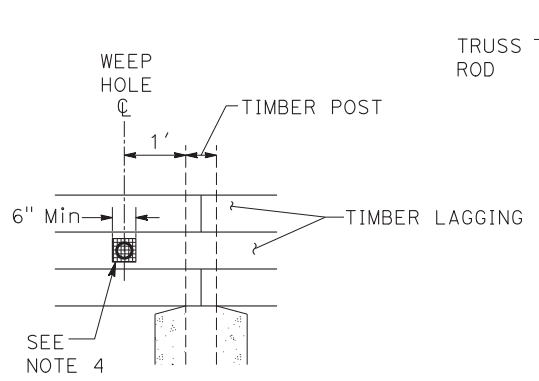
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
LARRY SARTORI
FUNCTIONAL SUPERVISOR
AHMAD SHAH
KEA NEEDS
REVISOR
DATE

LAST REVISION DATE PLOTTED => 05-SEP-2018
08-01-18 TIME PLOTTED => 16:39

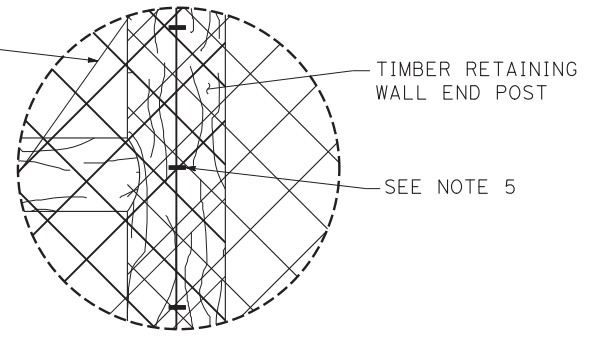
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60	22.1/26.6	69	680
			8-1-18	REGISTERED CIVIL ENGINEER DATE	
			8-15-18	PLANS APPROVAL DATE	
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



SIDE VIEW



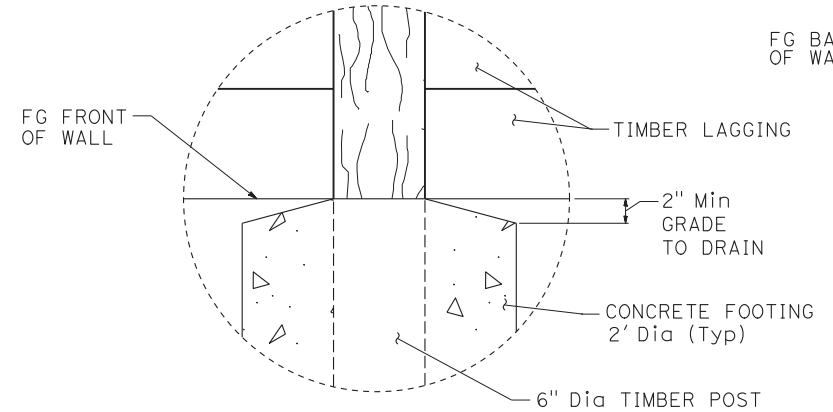
DETAIL C-C
BACK OF WALL



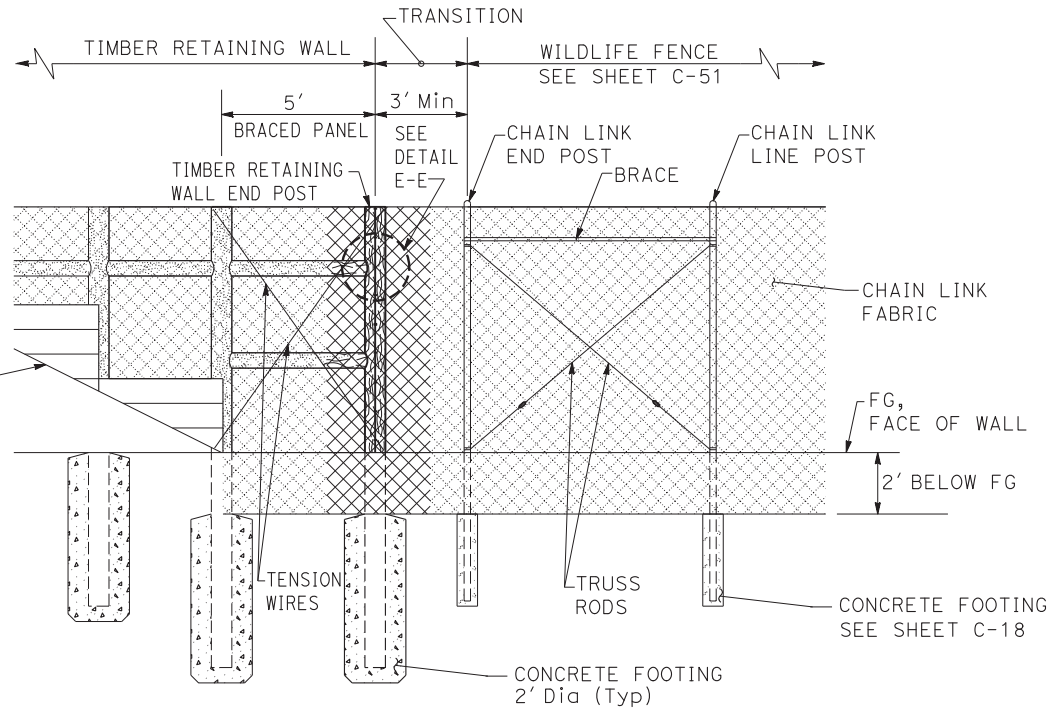
DETAIL E-E

- NOTES:**
- ONE CUBIC FOOT PERVIOUS BACKFILL MATERIAL IN NONWOVEN FILTER FABRIC, SECURELY TIED.
 - FILTER FABRIC MUST BE SECURELY ATTACHED TO BACK OF WALL WITH NAILS OR AS DIRECTED BY ENGINEER.
 - GRAVEL BACKFILL CONTINUOUS BEHIND RETAINING WALL.
 - 6" SQUARE GALVANIZED STEEL WIRE 1/4" MESH HARDWARE CLOTH, MINIMUM WIRE DIAMETER 0.205". ANCHOR FIRMLY TO BACKFACE OF WALL.
 - SPLICE OR OVERLAP CHAIN LINK FABRIC AND ATTACH FABRIC TO TIMBER POST WITH GALVANIZED FENCE STAPLES.

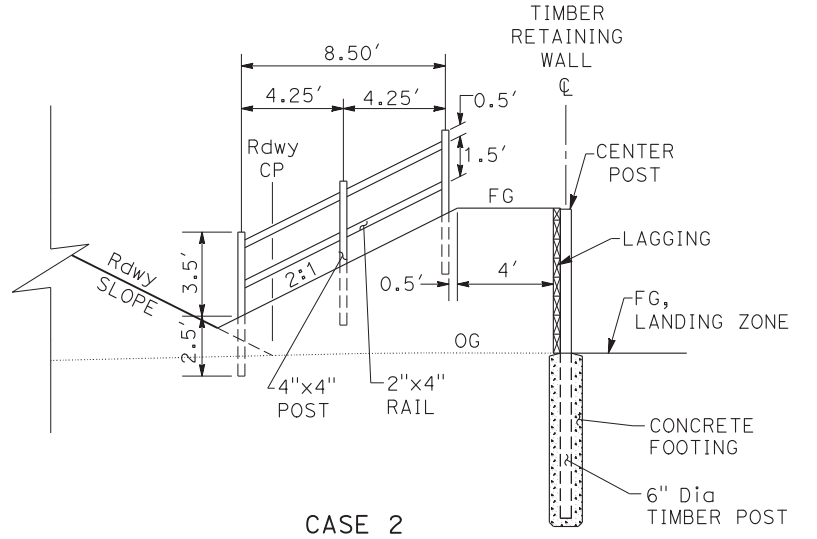
DETAIL C
WALL DRAINAGE



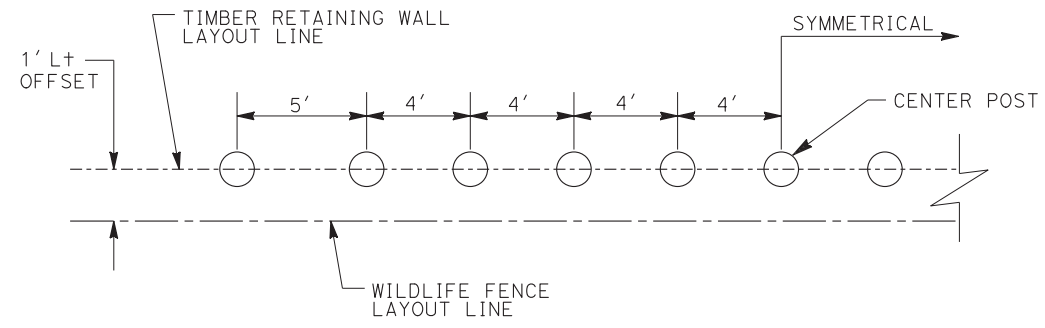
DETAIL B
TOP OF CONCRETE FOOTING



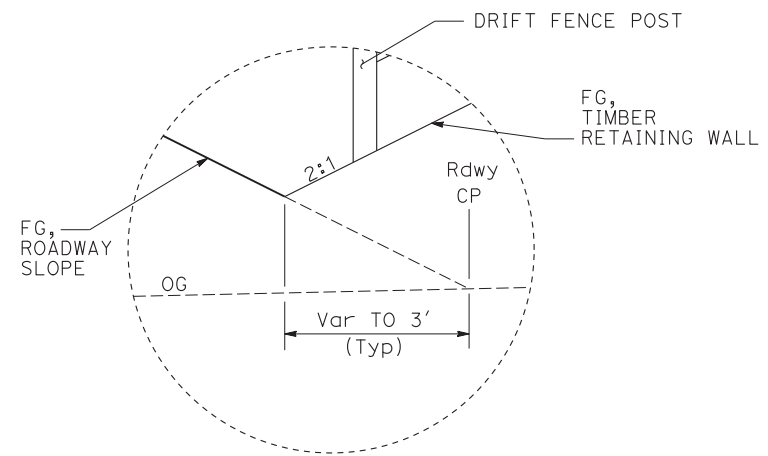
DETAIL E
TIMBER RETAINING WALL TO WILDLIFE FENCE TRANSITION
BACK VIEW OF TIMBER RETAINING WALL



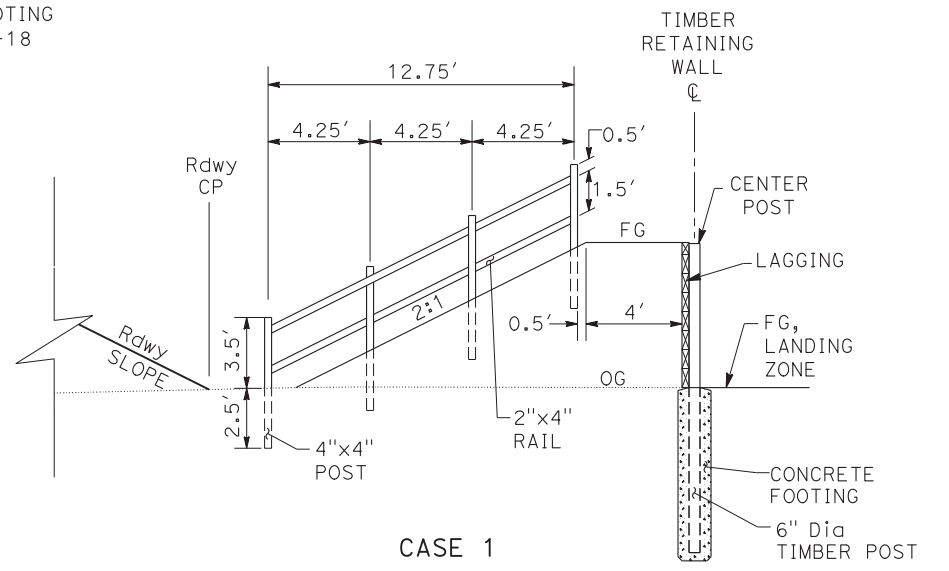
CASE 2



DETAIL A
TIMBER POST LAYOUT
SYMMETRICAL ABOUT CENTER POST



DETAIL D
CASE 2 GRADING



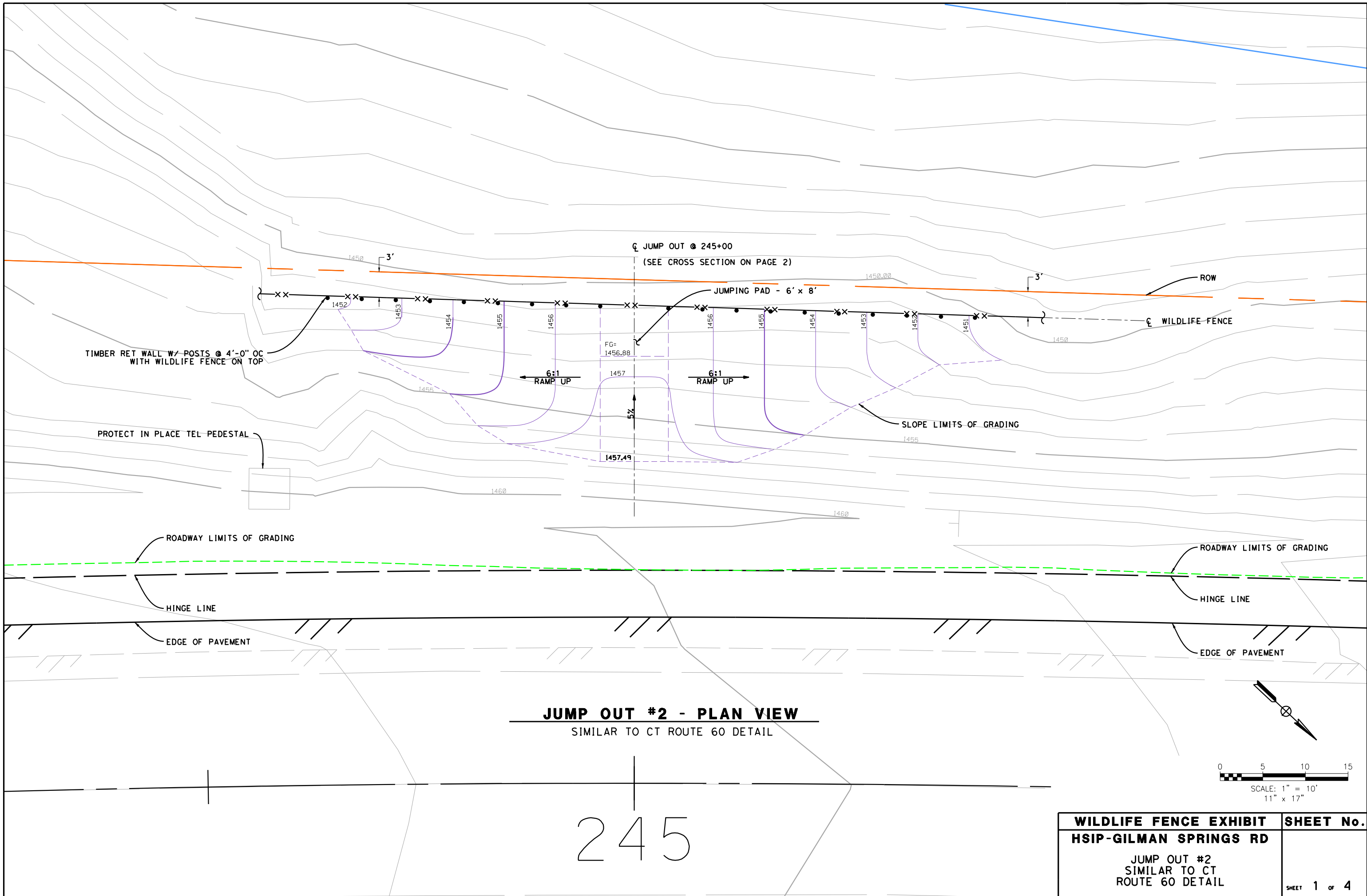
CASE 1

DETAIL F
DRIFT FENCE

CONSTRUCTION DETAILS
WILDLIFE FENCE
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
LARRY SARTORI
FUNCTIONAL SUPERVISOR
LARRY SARTORI
CHECKED BY
AHMAD SHAH
KEA NEEDS
AHMAD SHAH
REVISOR
DATE

LAST REVISION DATE PLOTTED => 05-SEP-2018
08-01-18 TIME PLOTTED => 16:39

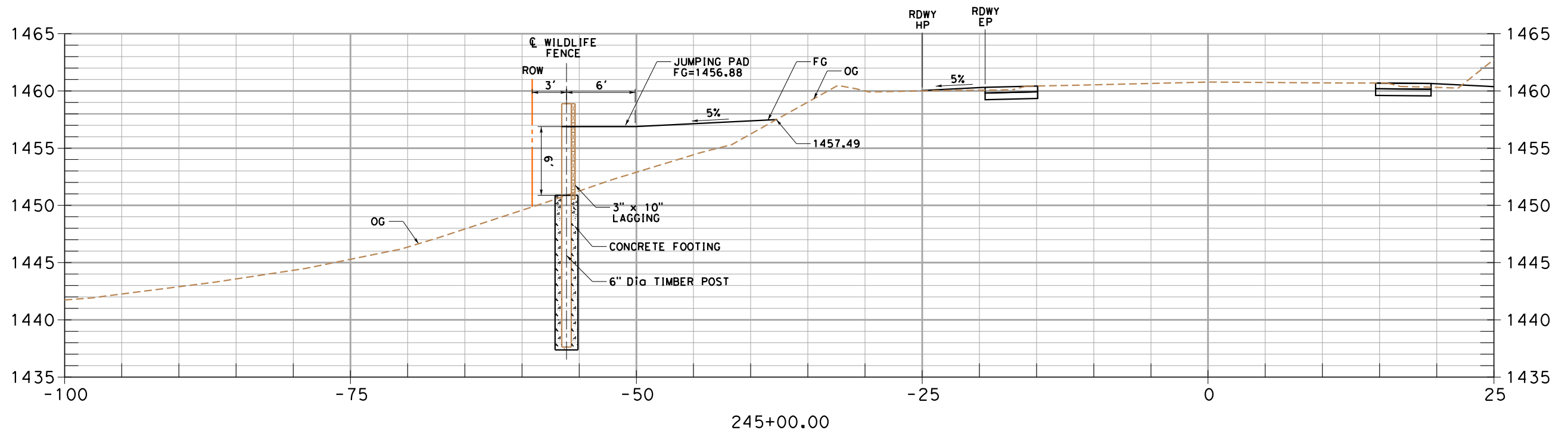


JUMP OUT #2 - PLAN VIEW
SIMILAR TO CT ROUTE 60 DETAIL

245

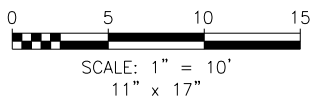
WILDLIFE FENCE EXHIBIT	SHEET No.
HSIP-GILMAN SPRINGS RD	
JUMP OUT #2 SIMILAR TO CT ROUTE 60 DETAIL	
	SHEET 1 OF 4

LAST REVISION
 00-00-00
 DATE PLOTTED => \$DATE
 TIME PLOTTED => \$TIME



JUMP OUT #2 - PLAN VIEW

SIMILAR TO CT ROUTE 60 DETAIL



WILDLIFE FENCE EXHIBIT	SHEET No.
HSIP-GILMAN SPRINGS RD	
JUMP OUT #2 SIMILAR TO CT ROUTE 60 DETAIL	
	SHEET 2 OF 4

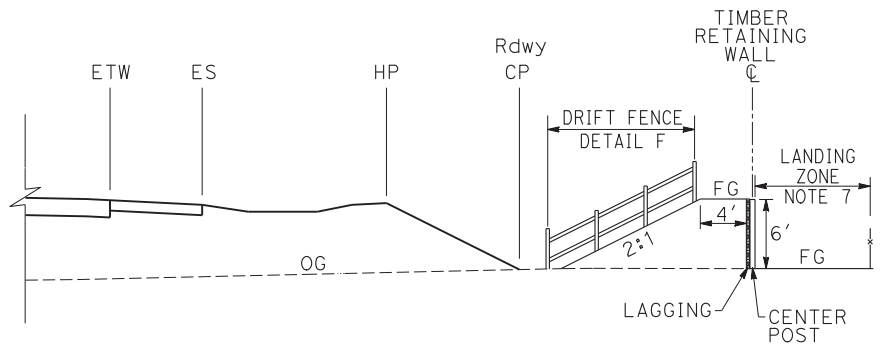
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DGN FILE => \$REQUEST

WO C2-0161

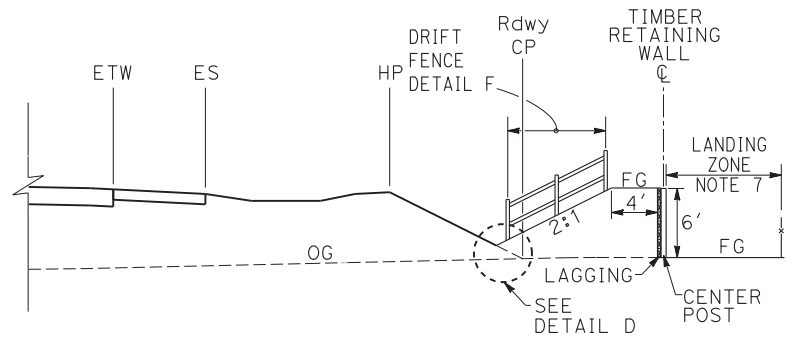
COUNTY
FILE No.

DATE PLOTTED => \$DATE
TIME PLOTTED => \$TIME

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60	22.1/26.6	68	680
			8-1-18	REGISTERED CIVIL ENGINEER DATE	
			8-15-18	PLANS APPROVAL DATE	
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



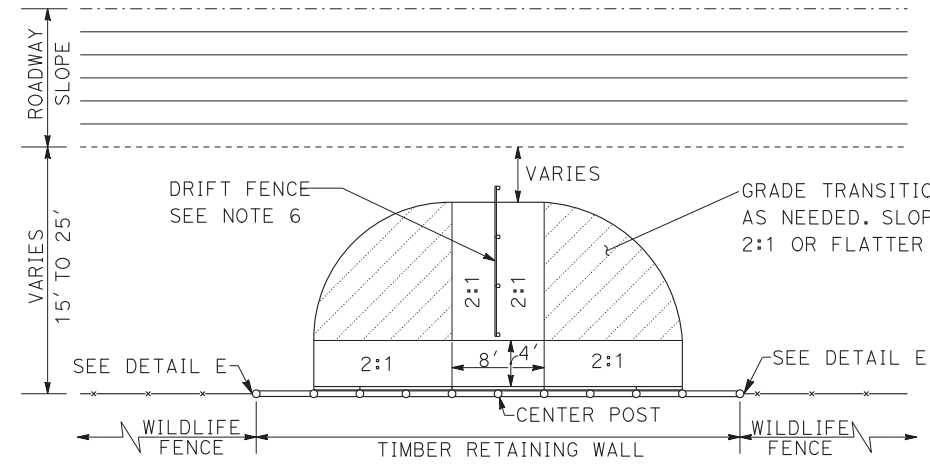
**TYPICAL SECTION
AT CENTER POST**



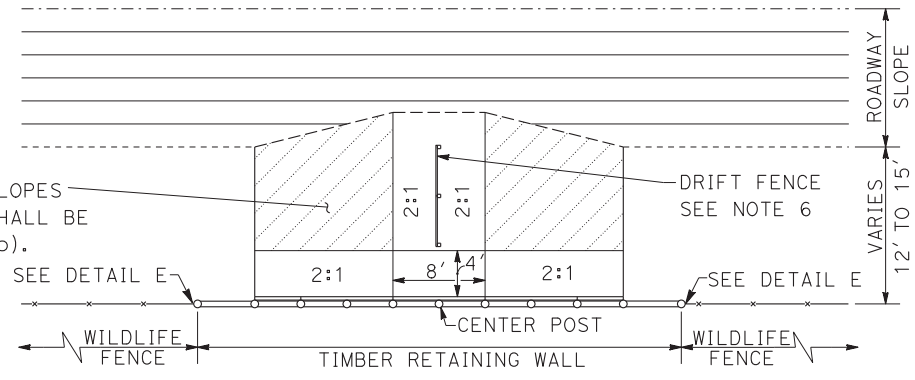
**TYPICAL SECTION
AT CENTER POST**

NOTES:

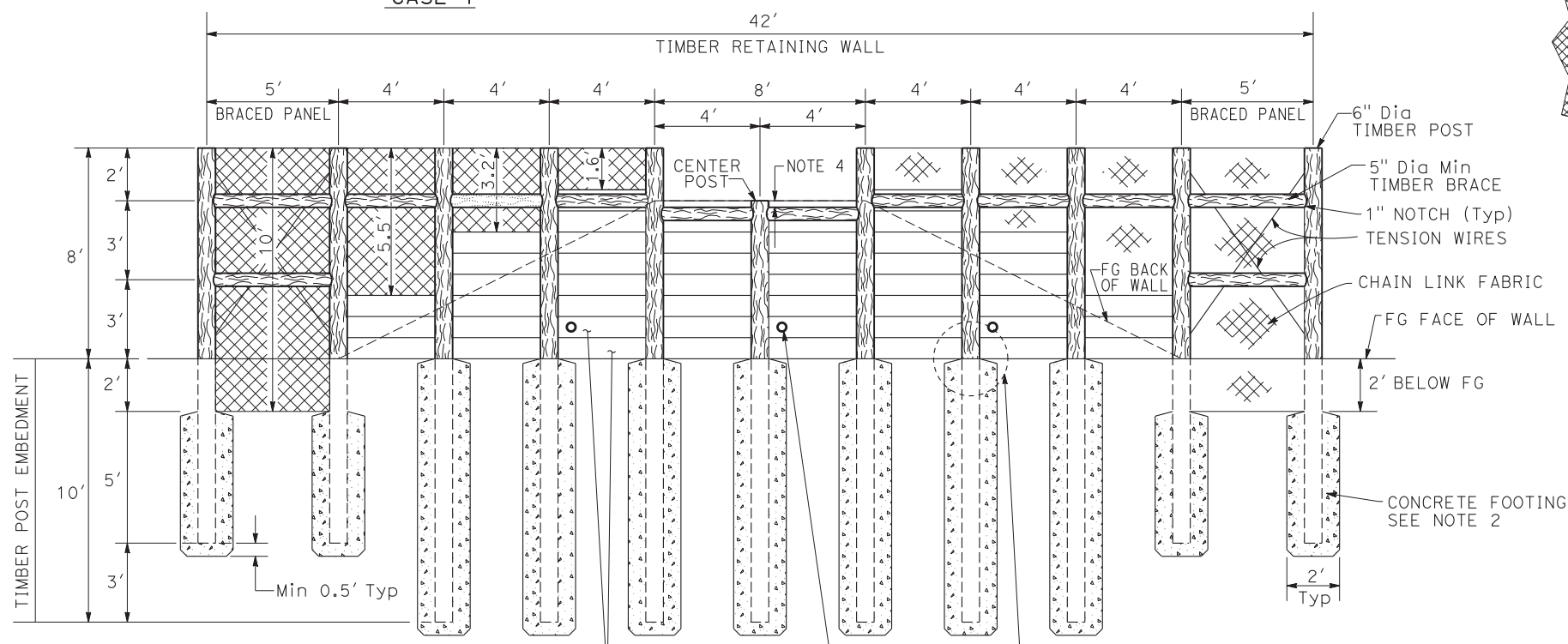
1. WALL LAYOUT LINE IS A MINIMUM OF 1' LEFT OF THE WILDLIFE FENCE LAYOUT LINE OR AS DIRECTED BY THE ENGINEER. SEE DETAIL A ON SHEET C-21.
2. CONCRETE FOOTING MUST BE A MINIMUM DISTANCE OF 6" FROM THE R/W LINE.
3. TIMBER LAGGING IS 3"X10" NOMINAL AND SHALL BE CONNECTED WITH LAG SCREWS RATHER THAN NAILS.
4. DISTANCE BETWEEN TOP OF LAGGING AND TOP OF HORIZONTAL BRACE MUST BE 0.25'.
5. FINISHED HEIGHT OF BACKFILL/TOPSOIL SHALL BE 2" ABOVE LAGGING.
6. DRIFT FENCE SHALL BE INSTALLED PERPENDICULAR TO TIMBER RETAINING WALL. SEE DETAIL F ON SHEET C-21.
7. LANDING ZONE SHALL BE FLAT, STABLE AND EARTHEN. THE AREA SHALL BE VOID OF OBJECTS THAT MAY HINDER OR ENDANGER WILDLIFE.
8. FOR DETAILS A THROUGH F SEE SHEET C-21.



**PLAN VIEW
CASE 1**



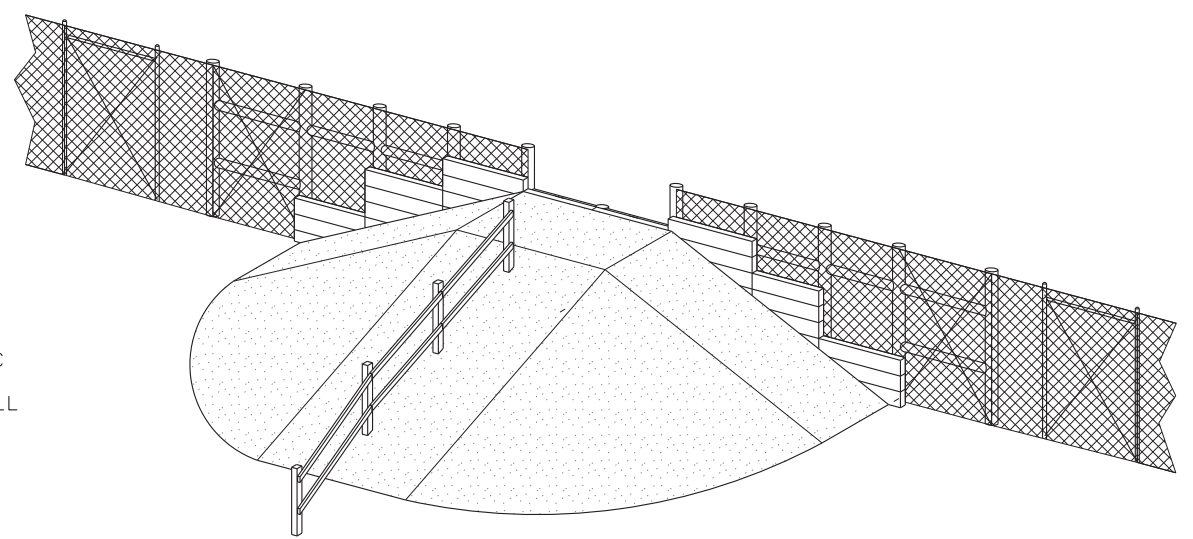
**PLAN VIEW
CASE 2**



ELEVATION VIEW

**TIMBER RETAINING WALL
(WILDLIFE ESCAPE RAMP)**

SEE TABLE FOR GATE LOCATIONS



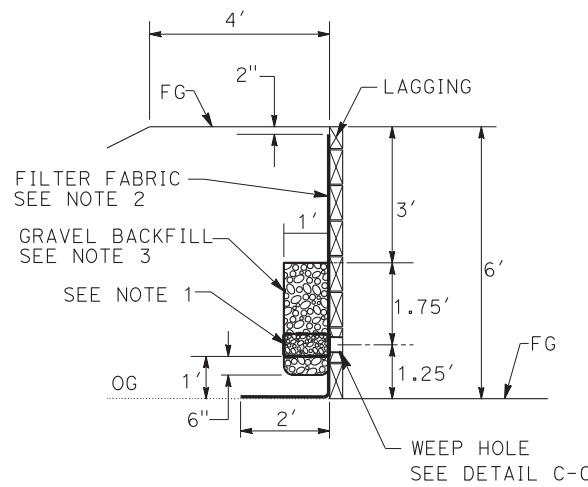
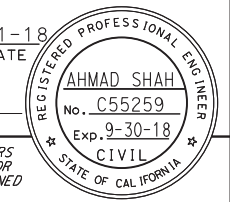
**ISOMETRIC VIEW
(CASE 1 SHOWN)**

**CONSTRUCTION DETAILS
WILDLIFE FENCE**

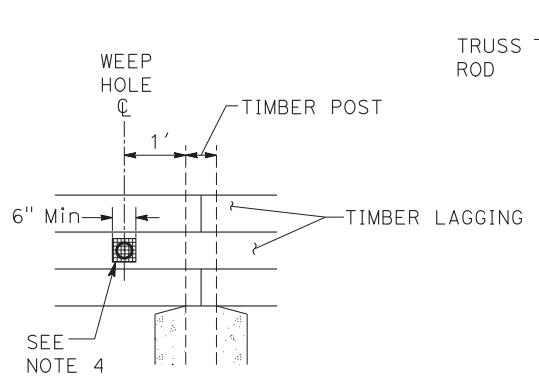
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 LARRY SARTORI
 FUNCTIONAL SUPERVISOR
 KEA NEEDS AHMAD SHAH
 REVISOR BY DATE
 REVISOR BY DATE

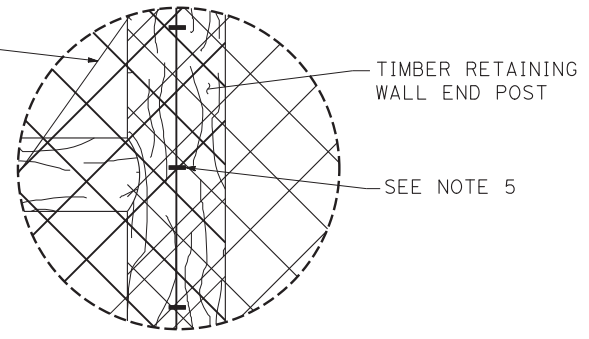
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60	22.1/26.6	69	680
			8-1-18	REGISTERED CIVIL ENGINEER DATE	
			8-15-18	PLANS APPROVAL DATE	
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



SIDE VIEW



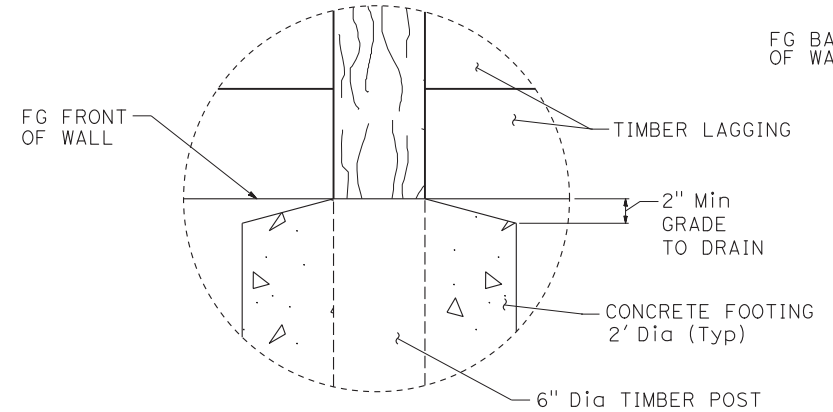
DETAIL C-C
BACK OF WALL



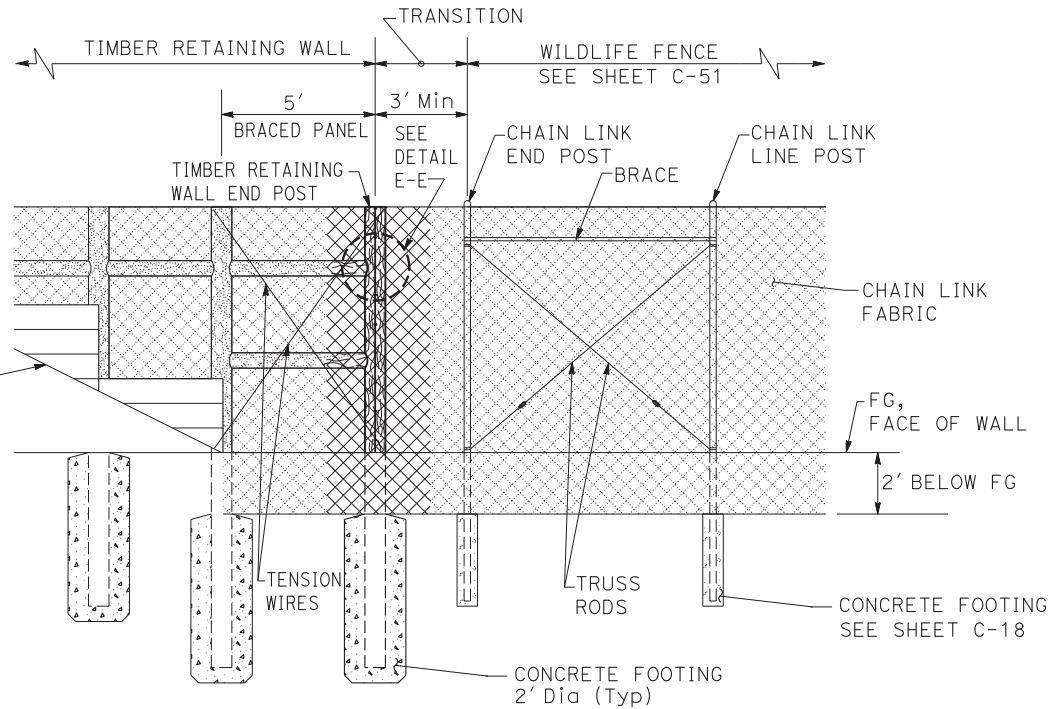
DETAIL E-E

- NOTES:**
- ONE CUBIC FOOT PERVIOUS BACKFILL MATERIAL IN NONWOVEN FILTER FABRIC, SECURELY TIED.
 - FILTER FABRIC MUST BE SECURELY ATTACHED TO BACK OF WALL WITH NAILS OR AS DIRECTED BY ENGINEER.
 - GRAVEL BACKFILL CONTINUOUS BEHIND RETAINING WALL.
 - 6" SQUARE GALVANIZED STEEL WIRE 1/4" MESH HARDWARE CLOTH, MINIMUM WIRE DIAMETER 0.205". ANCHOR FIRMLY TO BACKFACE OF WALL.
 - SPLICE OR OVERLAP CHAIN LINK FABRIC AND ATTACH FABRIC TO TIMBER POST WITH GALVANIZED FENCE STAPLES.

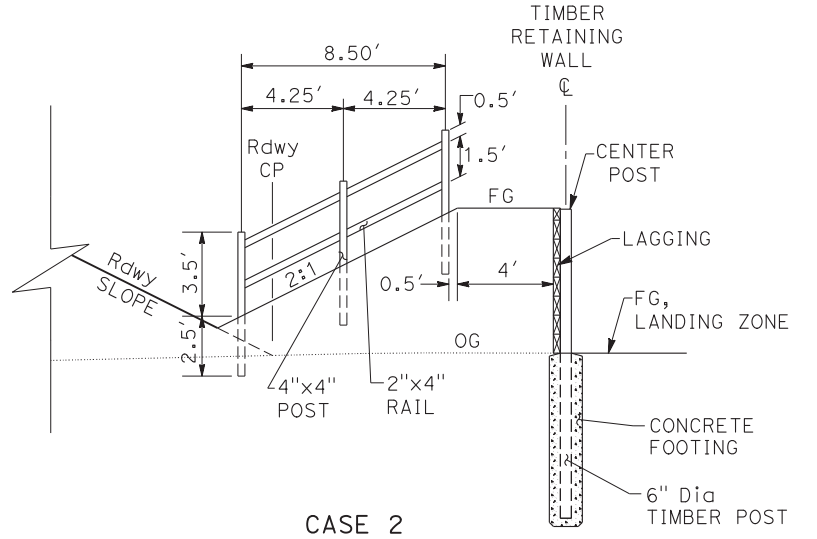
DETAIL C
WALL DRAINAGE



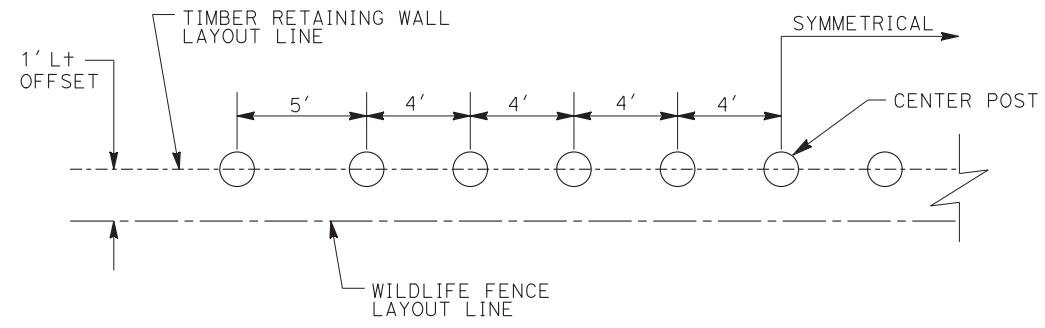
DETAIL B
TOP OF CONCRETE FOOTING



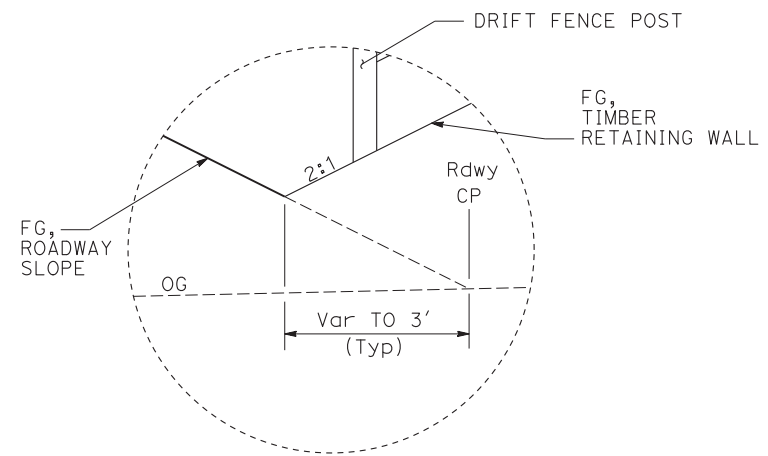
DETAIL E
TIMBER RETAINING WALL TO WILDLIFE FENCE TRANSITION
BACK VIEW OF TIMBER RETAINING WALL



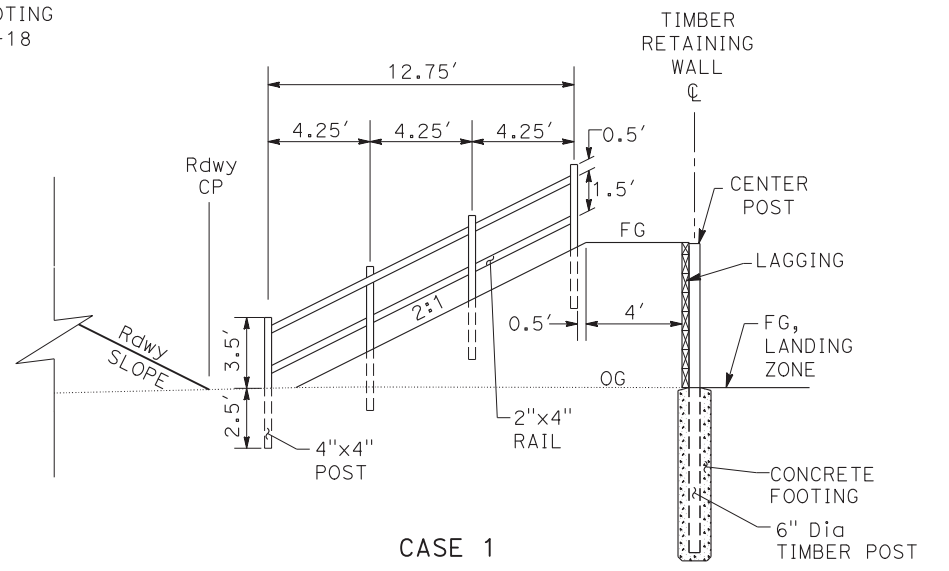
CASE 2



DETAIL A
TIMBER POST LAYOUT
SYMMETRICAL ABOUT CENTER POST



DETAIL D
CASE 2 GRADING



CASE 1

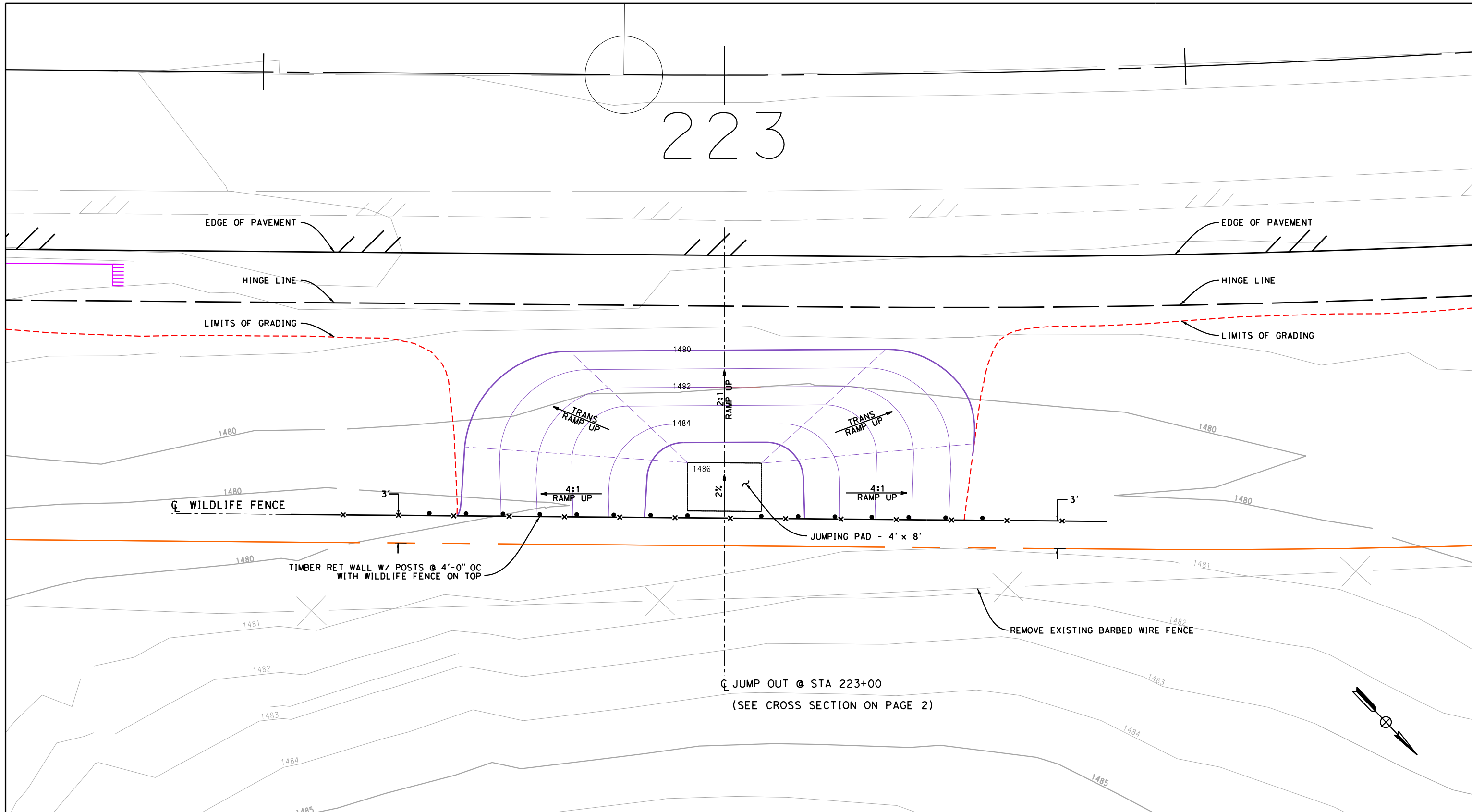
DETAIL F
DRIFT FENCE

CONSTRUCTION DETAILS
WILDLIFE FENCE
NO SCALE

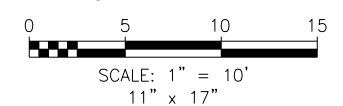
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 LARRY SARTORI
 LARRY SARTORI
 AHMAD SHAH
 KEA NEEDS
 AHMAD SHAH
 REVISOR BY DATE
 REVISOR BY DATE

LAST REVISION DATE PLOTTED => 05-SEP-2018
 08-01-18 TIME PLOTTED => 16:39

223



JUMP OUT #3 - PLAN VIEW
SIMILAR TO CT ROUTE 60 DETAIL



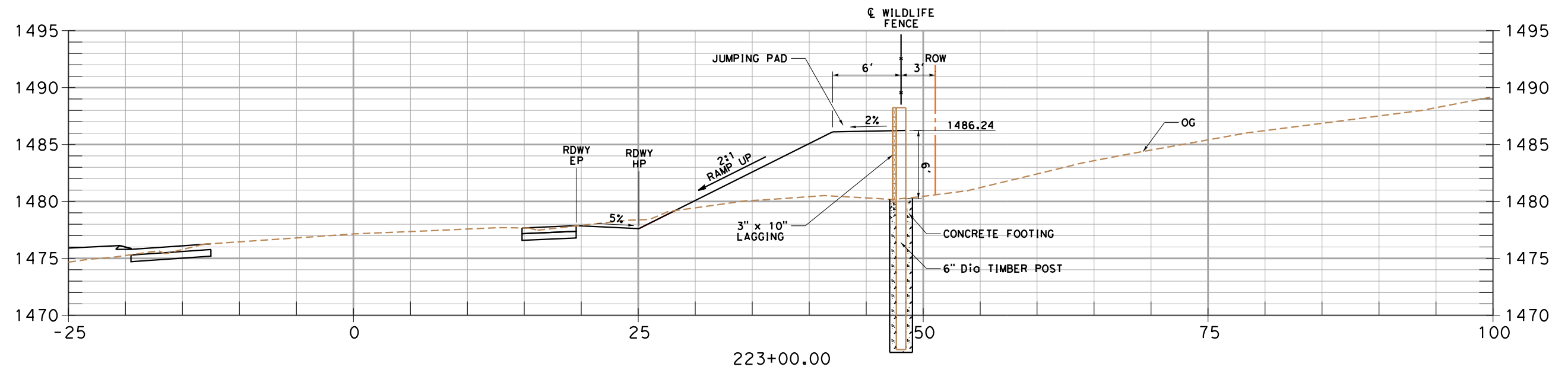
WILDLIFE FENCE EXHIBIT	SHEET No.
HSIP-GILMAN SPRINGS RD	
JUMP OUT #3 SIMILAR TO CT ROUTE 60 DETAIL	
	SHEET 1 OF 4

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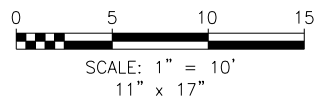
WO C2-0161

COUNTY
FILE No.

LAST REVISION: 00-00-00
DATE PLOTTED => \$DATE
TIME PLOTTED => \$TIME



JUMP OUT #3 - PROFILE VIEW
SIMILAR TO CT ROUTE 60 DETAIL



WILDLIFE FENCE EXHIBIT	SHEET No.
HSIP-GILMAN SPRINGS RD	
JUMP OUT #3 SIMILAR TO CT ROUTE 60 DETAIL	
	SHEET 2 OF 4

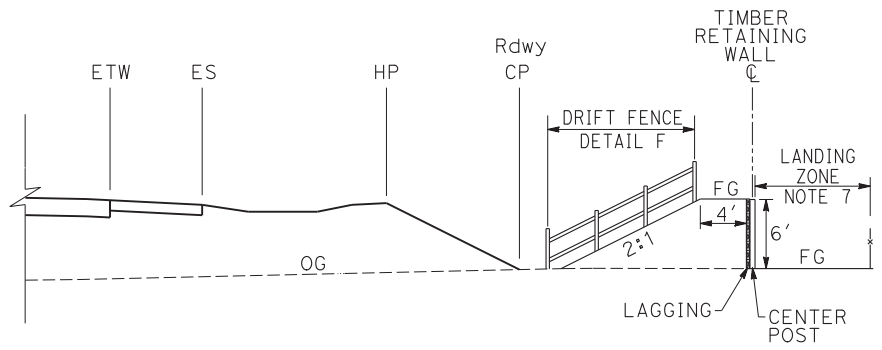
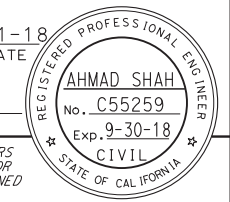
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WO C2-0161

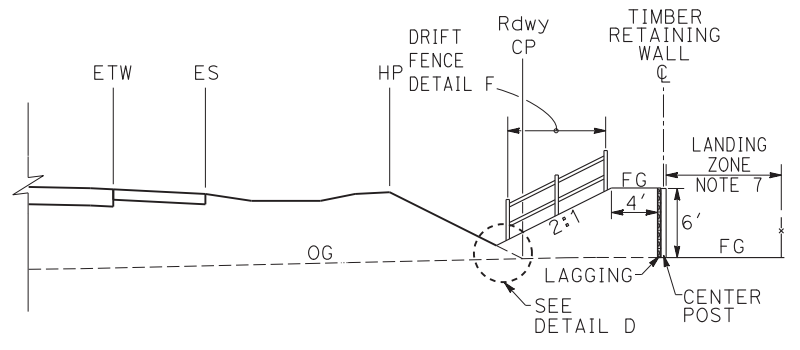
COUNTY
FILE No.

DATE PLOTTED => \$DATE
TIME PLOTTED => \$TIME

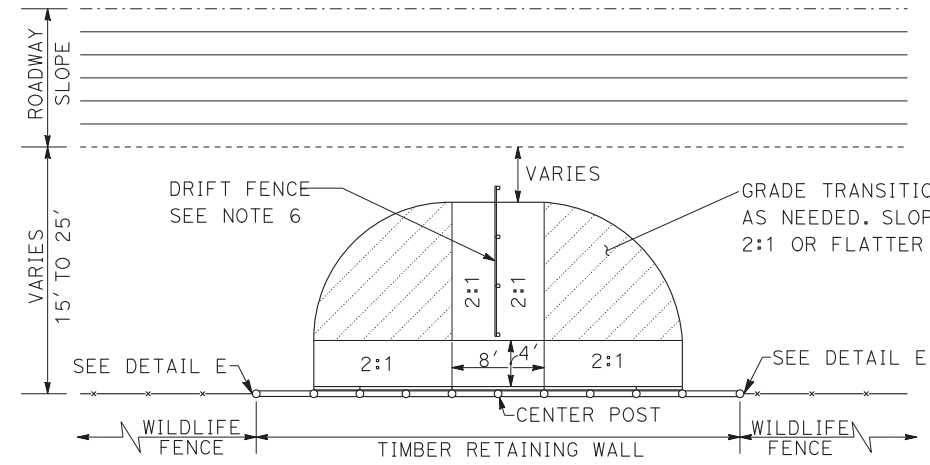
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60	22.1/26.6	68	680
			8-1-18	REGISTERED CIVIL ENGINEER DATE	
			8-15-18	PLANS APPROVAL DATE	
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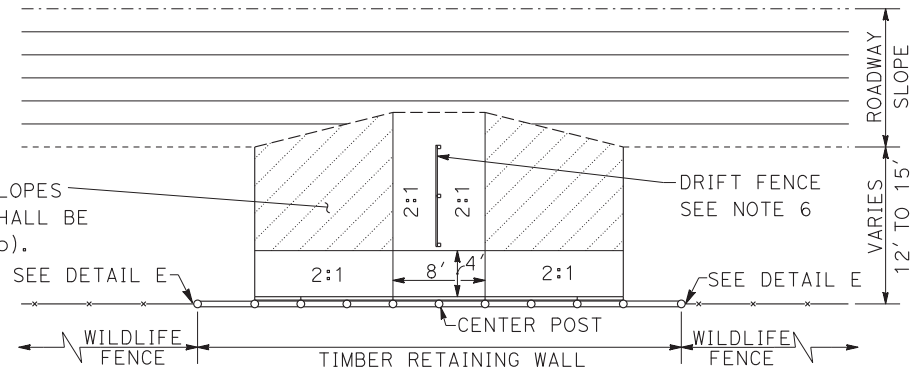
**TYPICAL SECTION
AT CENTER POST**



**TYPICAL SECTION
AT CENTER POST**



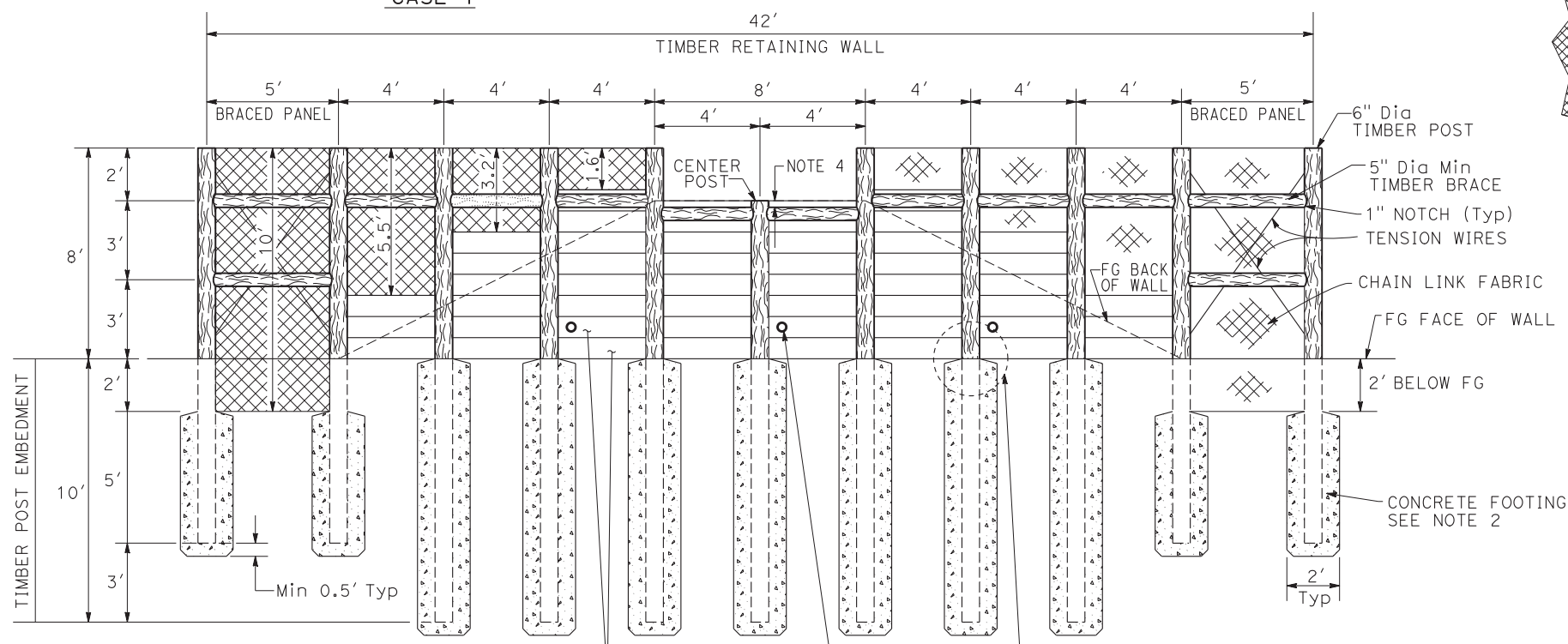
**PLAN VIEW
CASE 1**



**PLAN VIEW
CASE 2**

NOTES:

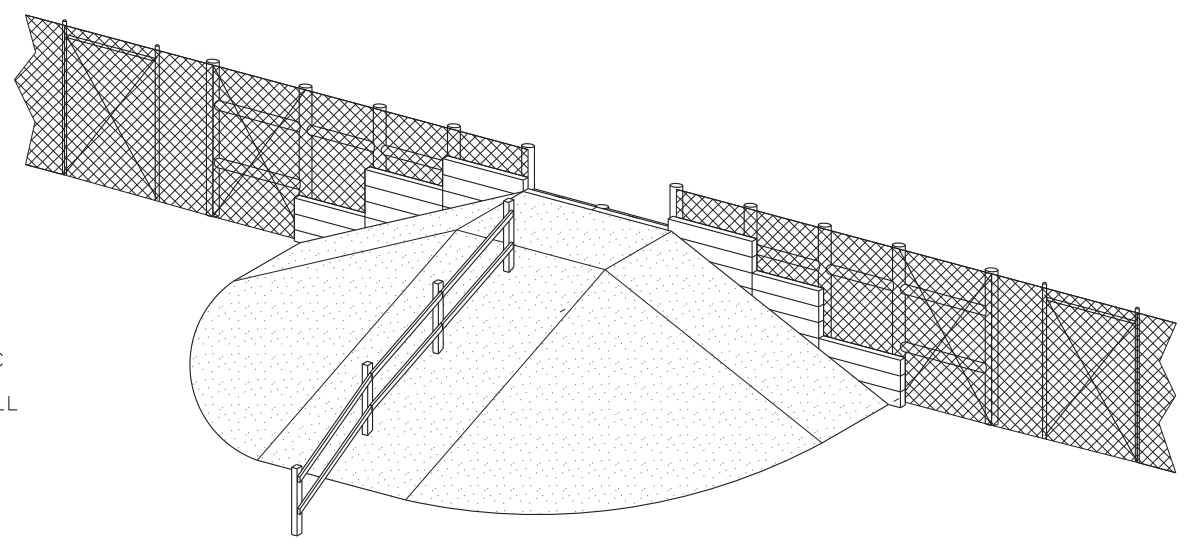
1. WALL LAYOUT LINE IS A MINIMUM OF 1' LEFT OF THE WILDLIFE FENCE LAYOUT LINE OR AS DIRECTED BY THE ENGINEER. SEE DETAIL A ON SHEET C-21.
2. CONCRETE FOOTING MUST BE A MINIMUM DISTANCE OF 6" FROM THE R/W LINE.
3. TIMBER LAGGING IS 3"X10" NOMINAL AND SHALL BE CONNECTED WITH LAG SCREWS RATHER THAN NAILS.
4. DISTANCE BETWEEN TOP OF LAGGING AND TOP OF HORIZONTAL BRACE MUST BE 0.25'.
5. FINISHED HEIGHT OF BACKFILL/TOPSOIL SHALL BE 2" ABOVE LAGGING.
6. DRIFT FENCE SHALL BE INSTALLED PERPENDICULAR TO TIMBER RETAINING WALL. SEE DETAIL F ON SHEET C-21.
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8. FOR DETAILS A THROUGH F SEE SHEET C-21.



ELEVATION VIEW

**TIMBER RETAINING WALL
(WILDLIFE ESCAPE RAMP)**

SEE TABLE FOR GATE LOCATIONS



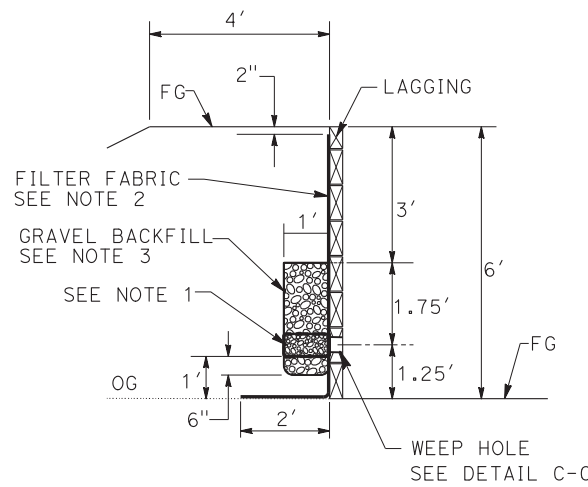
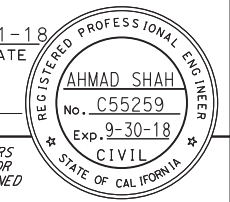
**ISOMETRIC VIEW
(CASE 1 SHOWN)**

**CONSTRUCTION DETAILS
WILDLIFE FENCE**

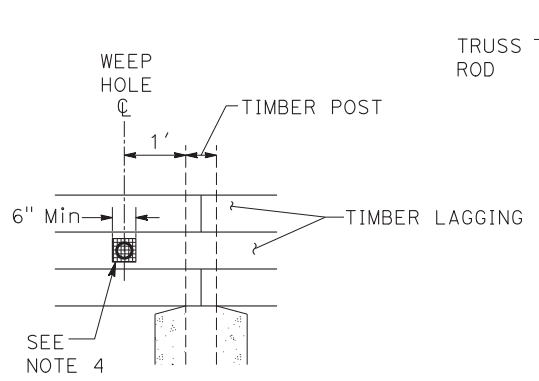
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 LARRY SARTORI
 FUNCTIONAL SUPERVISOR
 KEA NEEDS AHMAD SHAH
 REVISOR BY DATE
 REVISOR BY DATE

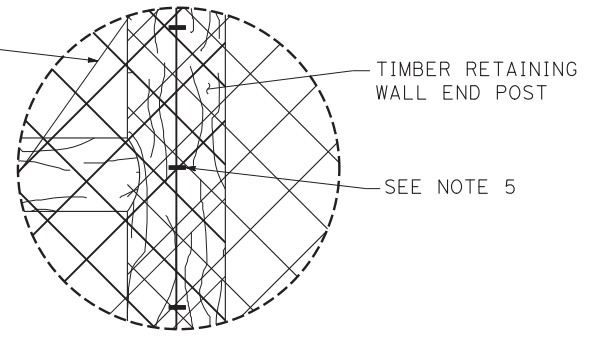
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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SIDE VIEW



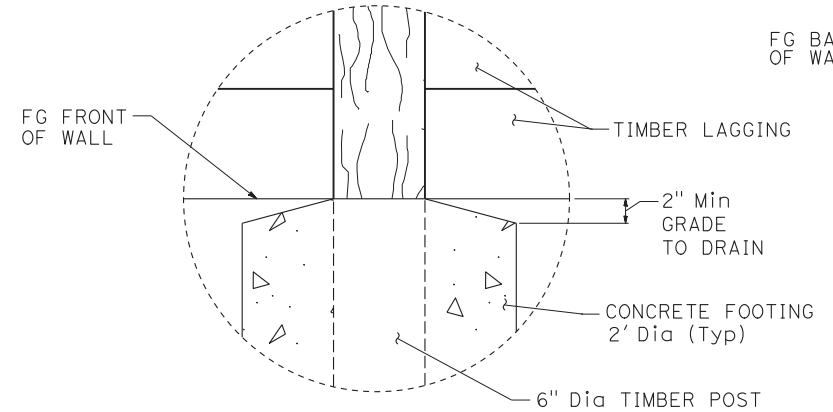
DETAIL C-C
BACK OF WALL



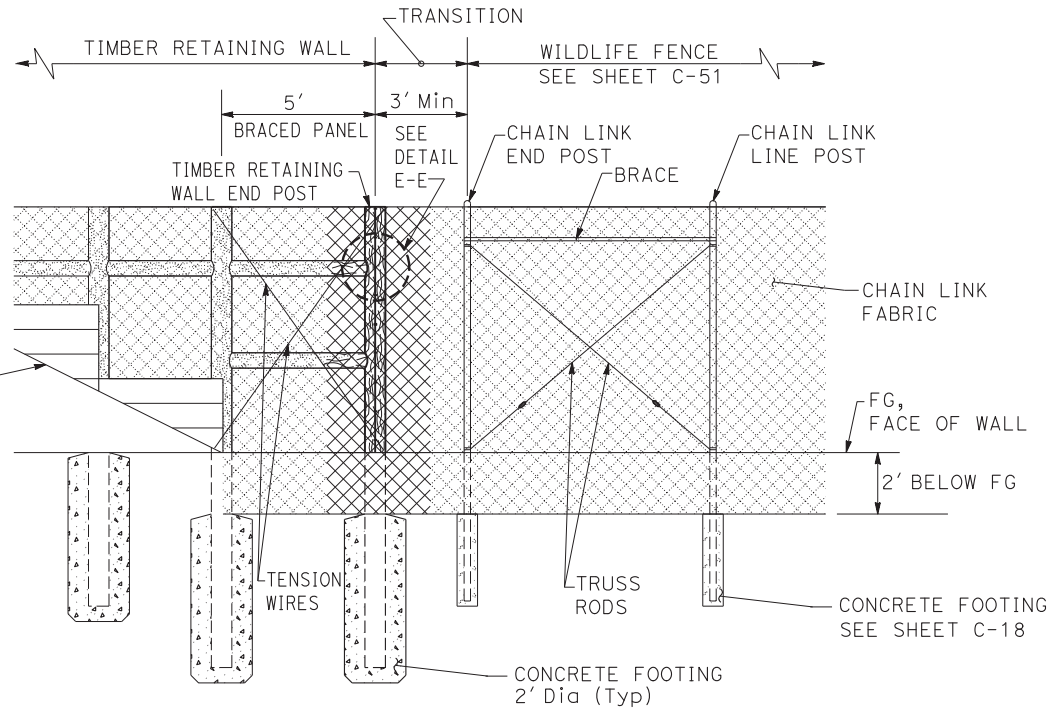
DETAIL E-E

- NOTES:**
- ONE CUBIC FOOT PERVIOUS BACKFILL MATERIAL IN NONWOVEN FILTER FABRIC, SECURELY TIED.
 - FILTER FABRIC MUST BE SECURELY ATTACHED TO BACK OF WALL WITH NAILS OR AS DIRECTED BY ENGINEER.
 - GRAVEL BACKFILL CONTINUOUS BEHIND RETAINING WALL.
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 - SPLICE OR OVERLAP CHAIN LINK FABRIC AND ATTACH FABRIC TO TIMBER POST WITH GALVANIZED FENCE STAPLES.

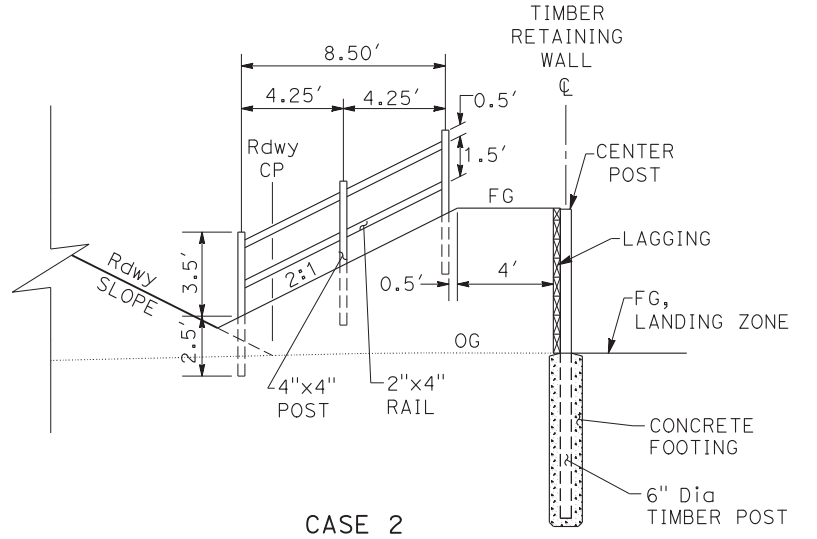
DETAIL C
WALL DRAINAGE



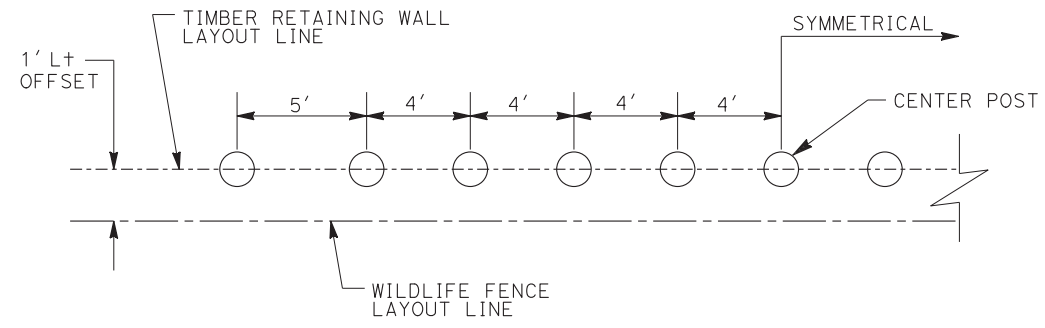
DETAIL B
TOP OF CONCRETE FOOTING



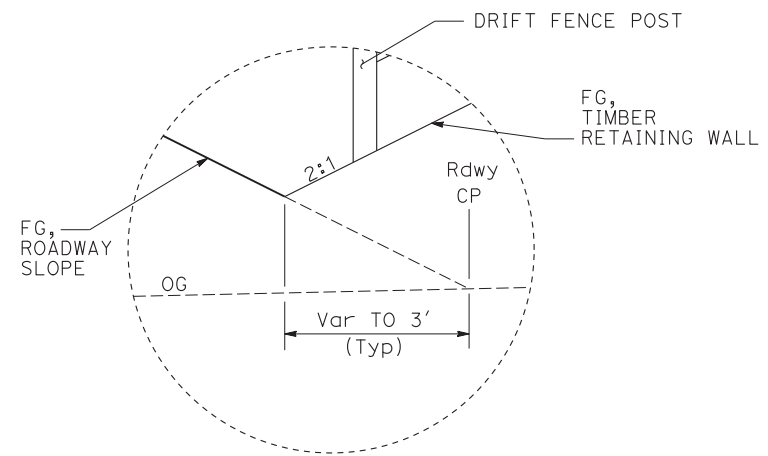
DETAIL E
TIMBER RETAINING WALL TO WILDLIFE FENCE TRANSITION
BACK VIEW OF TIMBER RETAINING WALL



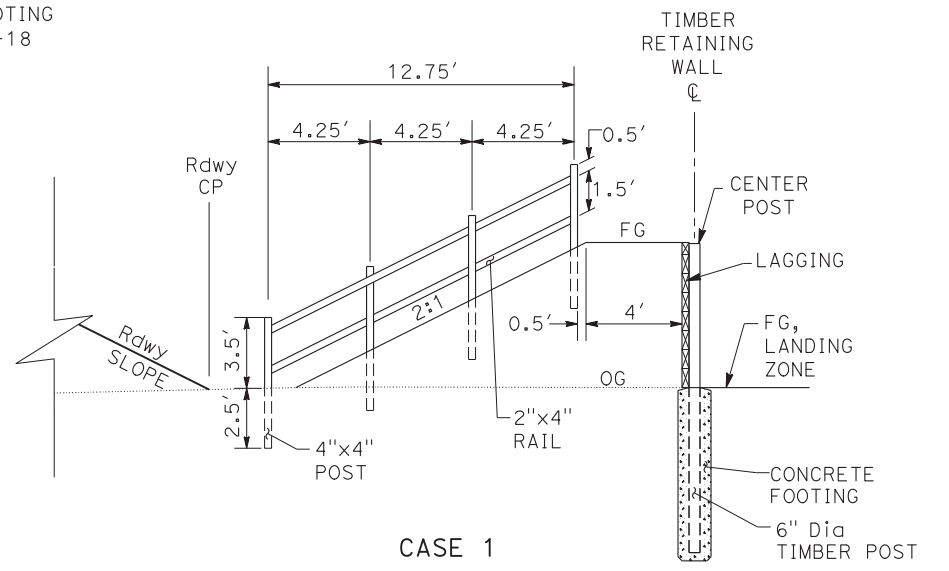
CASE 2



DETAIL A
TIMBER POST LAYOUT
SYMMETRICAL ABOUT CENTER POST



DETAIL D
CASE 2 GRADING



CASE 1

DETAIL F
DRIFT FENCE

CONSTRUCTION DETAILS
WILDLIFE FENCE

NO SCALE

C-21

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
LARRY SARTORI
AHMAD SHAH
KEA NEEDS
REVISOR BY DATE
REVISOR BY DATE

LAST REVISION DATE PLOTTED => 05-SEP-2018
08-01-18 TIME PLOTTED => 16:39