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The L4 corridor traverses the Proctor Valley drainage and facilitates movement of species such as birds, small mammals, reptiles, and some amphibians. The corridor is currently within open space areas managed by various entities, except for the point where it crosses the southern and northern portions of the existing Proctor Valley Road. Within the Project Area, it traverses chamise chaparral, cismontane alkali marsh, coastal sage scrub vegetation types, non-native grassland, open water, unvegetated channel, developed land, and disturbed habitat. L4 connects to L3 in the northern portion, which then passes south through the BLM land in the eastern portion, connecting to R1. Where L3 connects to L4 in the south, L3 continues east through Otay Ranch RMP and MCSP Preserve lands, and BLM land and connects to R7 near the Jamul and San Ysidro Mountains. The L3 corridor is composed of two sections: the southern one that runs mostly east/west, and the northern one that runs mostly north/south. Within the Project Area, the L3 corridor traverses Diegan coastal sage scrub, disturbed habitat, non-native grassland, open water, and southern mixed chaparral. Regional corridor R1 is designated in a general east–west direction and follows along drainages toward Sweetwater Reservoir to the west and Jamul Mountains to the east. Species that travel farther distances could use this corridor as part of their home range or dispersal, including mule deer, coyote, and cougar, as well as birds and other species. The R1 corridor traverses chamise chaparral, coastal sage scrub vegetation types, non-native grassland, vernal pools, developed land, and disturbed habitat within the Project Area. Because Proctor Valley is situated adjacent to the Otay and Sweetwater Reservoirs, it could be used as a stopover or foraging area for species traveling between the reservoirs.

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5 PROJECT EFFECTS

This section addresses direct, indirect, and cumulative impacts to biological resources that would result from implementation of the Proposed Project. A number of mitigation measures are included as part of the Proposed Project to avoid, minimize, and/or mitigate potential impacts to less-than-significant levels; these measures are summarized in Chapter 11 of this report.

Direct impacts were quantified by overlaying the anticipated limits of grading and fuel modification over the mapped biological resources and quantifying impacts (see Figure 5-1, Impacts to Biological Resources – Legend, and Figures 5-1a through 5-1cc, Impacts to Biological Resources). Impacts related to development of the Proposed Project within Village 14 and Planning Areas 16/19 would occur on approximately 722.6 acres;¹² the remainder of the Project Area would be designated as Otay Ranch RMP Preserve or Conserved Open Space. Additional development would occur off site on approximately 85.4 acres of lands owned by the City of San Diego, City of Chula Vista, and CDFW, and on a County of San Diego road easement, including 15.8 acres in Planning Areas 16/19 (CDFW and County).

Indirect impacts result from adverse “edge effects,” either short-term indirect impacts related to construction, or long-term, chronic indirect impacts associated with the location of urban development in proximity to biological resources within natural open space. During construction of the Proposed Project, short-term indirect impacts may include dust and noise, which could temporarily disrupt habitat and species’ vitality; changes in hydrology; disruption of wildlife activity due to increased human activity; and construction-related chemical pollutants. However, all Proposed Project grading would be subject to restrictions and requirements that address erosion and runoff, including the federal Clean Water Act and the National Pollution Discharge Elimination System, and preparation of a SWPPP and Standard Urban Stormwater Management Plan. These programs are expected to minimize Proposed Project impacts with respect to erosion/runoff, and the potential impacts from chemical pollutants. Long-term indirect impacts to adjacent open space may include generation of fugitive dust, intrusions by humans and domestic pets, noise, lighting, invasion by exotic plant and wildlife species, effects of toxic chemicals (fertilizers, pesticides, herbicides, and other hazardous materials), urban runoff from developed areas, litter, fire, habitat fragmentation, and hydrologic changes. As required by the Otay Ranch RMP (City of Chula Vista and County of San Diego 1993b.), the Proposed Project would include a 100-foot Preserve edge buffer, which is detailed in the Preserve Edge Plan. The Preserve edge would be a 100-foot buffer between the Otay Ranch RMP Preserve and development, and is located immediately adjacent to, but outside of, the Otay Ranch RMP Preserve. The 100-foot

¹² 21.9 acres would be permanent and temporary impacts associated with road improvements within the Otay Ranch RMP Preserve.

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buffer is intended to reduce the edge effects of development on the Otay Ranch RMP Preserve. The Preserve Edge Plan details the uses allowed within the 100-foot-wide Preserve edge buffer, and provides a list of plant species that are appropriate adjacent to the Otay Ranch RMP Preserve. The Preserve Edge Plan addresses drainage, toxic substances, lighting, noise, fuel modification, fencing, and invasive species (RH Consulting et al. 2017). The 100-foot Preserve edge buffer totals approximately 91 acres.

Cumulative impacts refer to incremental individual environmental effects of two or more projects when considered together. These impacts taken individually may be minor but become collectively significant as they occur over time.

5.1 Riparian Habitat or Sensitive Vegetation Communities

5.1.1 Direct Impacts to Riparian Habitat or Sensitive Vegetation Communities

5.1.1.1 Temporary Direct Impacts

Impact V-1: Temporary Direct Impacts to Riparian Habitat or Sensitive Vegetation Communities within the Project Area (Including Off-Site Improvement Areas)

Short-term, construction-related, or temporary direct impacts to vegetation communities would primarily result from construction activities, including grading that would be restored following completion of the Proposed Project. The Proposed Project's temporary impacts would occur primarily as a result of constructing improvements to Proctor Valley Road (including realignment of the road) both on and off of the Project Area, and constructing access roads within Village 14 and Planning Area 16. Within Village 14 there would be 10.3 acres of temporary impacts to sensitive vegetation, of which 6.6 acres is within the Otay Ranch RMP Preserve. Within Planning Areas 16 there would be 3.4 acres of temporary impacts within the Otay Ranch RMP Preserve.

Within the Village 14 Development Footprint, grading of a slope along Proctor Valley Road would result in direct temporary impacts to 3.9 acres of granitic chamise chaparral, a sensitive vegetation community. The slope is located in the northern portion of Village 14 on the eastern side of Proctor Valley Road, immediately adjacent to Conserved Open Space. Grading within the Otay Ranch RMP Preserve would occur along Proctor Valley Road and roads within Planning Area 16. Off-site temporary impacts associated with improvements to Proctor Valley Road would total 53.2 acres, of which 49.4 acres of impact would be to riparian habitat or sensitive vegetation communities. Table 5-1 provides a list of impacts for the Project Area. Table 5-2 provides a summary of Proposed Project impacts, including from off-site improvements. A detailed summary of impacts for the off-site improvements, organized by ownership, is provided in Table 5-3.

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In addition, clearing, trampling, or grading of vegetation outside designated construction zones could occur in the absence of avoidance and mitigation measures. These potential impacts could damage vegetation communities and alter their ecosystem, creating gaps in vegetation that allow exotic, non-native plant species to become established, thus increasing soil compaction and leading to soil erosion. All temporarily impacted areas would be revegetated upon completion of road construction/realignment activities.

The significance of these potential impacts was determined through application of the County's Significance Guidelines, as described in Section 7.1, Guidelines for the Determination of Significance, of this report.

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**Table 5-1
Impacts to Vegetation Communities and Land Cover Types within Village 14 and Planning Areas 16/19 (Acres)**

Habitat Types/Vegetation Communities (Code) ^a		Project Area Total	Village 14				Planning Areas 16/19				Off-Site Improvement Areas		Total Impacts	
			Permanent Impacts		Temporary Impacts		Permanent Impacts			Temporary Impacts	Permanent Impacts ^c	Temporary Impacts	Permanent Impacts	Temporary Impacts
			Dev. ^b	Preserve ^c	Dev.	Preserve	Dev.	Preserve ^c	LDA ^c	Preserve				
Riparian Habitat/ Jurisdictional Aquatic Resources	Cismontane alkali marsh (including disturbed) (52310)	7.8	—	0.1	—	<0.05	0.8	0.2	—	<0.05	—	—	1.1	<0.1
	Coastal and valley freshwater marsh (52410)	0.4	—	—	—	—	—	—	—	—	0.1	0.3	0.1	0.3
	Mulefat scrub (63310)	1.0	—	—	—	—	<0.05	<0.05	—	0.1	0.1	0.2	0.1	0.3
	Open water (64100)	0.4	—	—	—	—	0.2	—	—	—	—	—	0.2	—
	Southern coast live oak riparian forest (61310)	0.7	—	—	—	—	—	—	—	—	—	—	—	—
	Southern willow scrub (63320)	0.3	—	—	—	—	0.2	<0.05	—	<0.05	<0.05	<0.05	0.2	<0.1
	Unvegetated channel (64200) ^d	0.1	—	—	—	—	—	—	—	—	<0.05	0.1	<0.05	0.1
<i>Riparian Habitat/Jurisdictional Aquatic Resources Total</i>		<i>10.8</i>	<i>—</i>	<i>0.1</i>	<i>—</i>	<i><0.05</i>	<i>1.1</i>	<i>0.2</i>	<i>—</i>	<i>0.1</i>	<i>0.2</i>	<i>0.6</i>	<i>1.6</i>	<i>0.7</i>
Sensitive Upland Communities	Granitic chamise chaparral (including disturbed) (37210)	308.6	219.9	5.7	3.9	1.3	—	—		—	5.2	13.6	230.9	18.8
	Granitic southern mixed chaparral (37121)	99.2	—	—	—	—	8.8	—	1.2	—	2.4	1.9	12.4	1.9
	Diegan coastal sage scrub (32500)	711.1	113.3	0.8	—	1.8	212.4	1.4	10.4	2.3	14.2	14.6	352.5	18.7
	Diegan coastal sage scrub (disturbed) (32500)	93.0	34.2	2.5	—	3.3	11.0	—	—	<0.05	3.3	6.3	51.0	9.6
	Diegan coastal sage scrub – <i>Baccharis</i> -dominated (including disturbed) (32530)	1.3	—	—	—	—	—	—	—	—	0.4	0.9	0.4	0.9
	Non-native grassland (42200)	112.2	32.0	0.2	—	0.1	34.1	0.3	—	1.0	3.6	11.4	70.2	12.5
<i>Sensitive Upland Communities Total</i>		<i>1,325.5</i>	<i>399.4</i>	<i>9.2</i>	<i>3.9</i>	<i>6.5</i>	<i>266.3</i>	<i>1.7</i>	<i>11.6</i>	<i>3.3</i>	<i>29.1</i>	<i>48.8</i>	<i>717.4</i>	<i>62.4</i>
Riparian Habitat/Jurisdictional Aquatic Resources and Sensitive Upland Communities Subtotal		1,336.3	399.4	9.3	3.9	6.5	267.4	1.9	11.6	3.3	29.3	49.4	719.0	63.1
Non-Sensitive Communities and Land Covers	Disturbed habitat (11300)	22.5	10.3	<0.05	—	0.1	4.7	<0.05	—	0.1	1.0	2.4	16.0	2.6
	Eucalyptus woodland (79100)	2.9	—	—	—	—	—	—	—	—	—	0.2	—	0.2
	Urban/developed (12000)	7.3	3.0	—	—	—	0.5	0.5	—	<0.05	1.9	1.2	5.9	1.2
<i>Non-Sensitive Communities and Land Covers Total</i>		<i>32.7</i>	<i>13.3</i>	<i><0.05</i>	<i>—</i>	<i>0.1</i>	<i>5.2</i>	<i>0.5</i>	<i>—</i>	<i>0.1</i>	<i>2.9</i>	<i>3.8</i>	<i>21.9</i>	<i>4.0</i>
Total^e		1,369.0	412.7	9.3	3.9	6.6	272.6	2.4	11.6	3.4	32.2	53.2	740.9	67.1

^a Oberbauer et al. 2008.

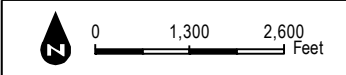
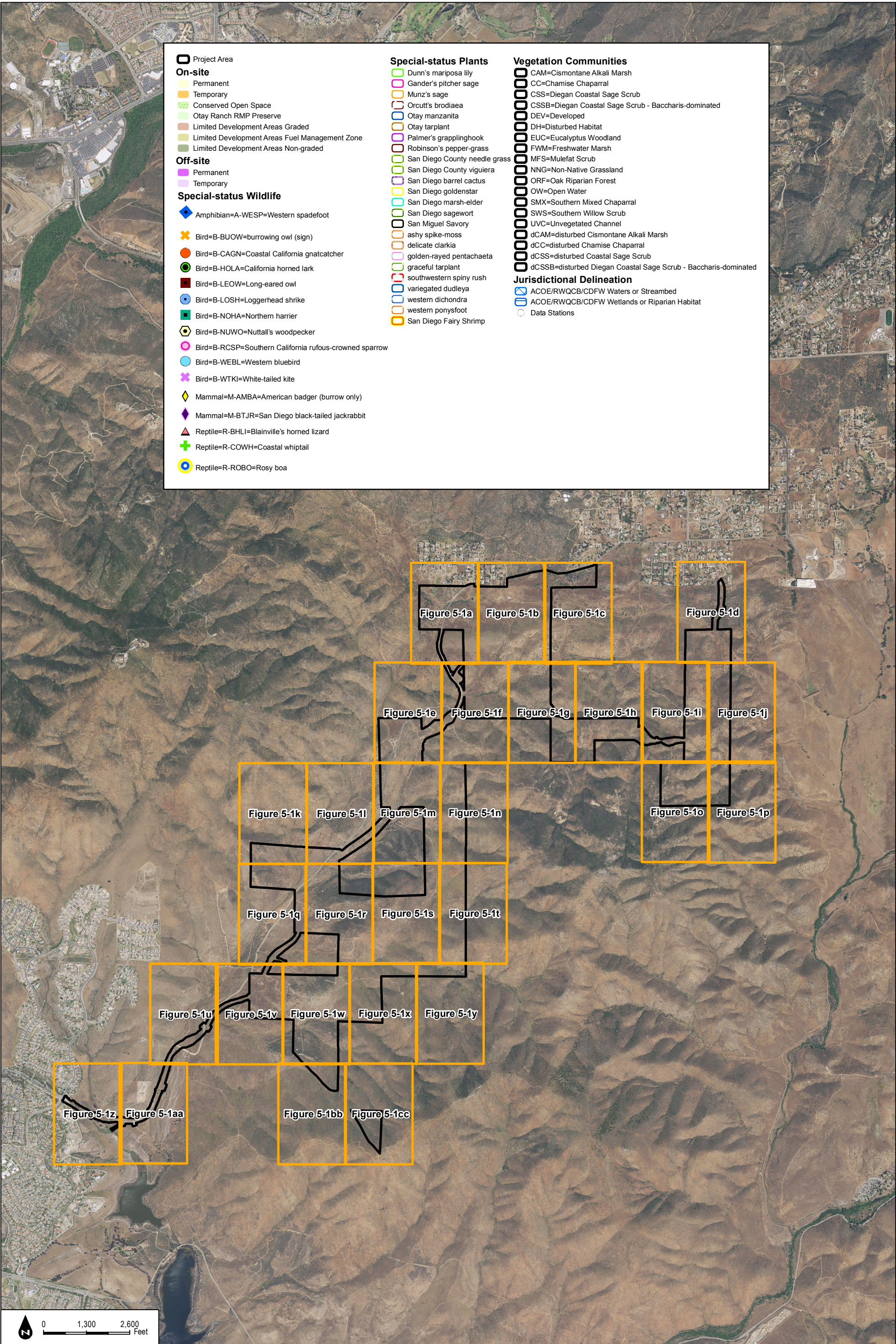
^b Dev. = Development Footprint; includes 116.4 acres of private HOA open space that would remain within the development.

^c Fuel modification is included within the permanent impact areas. An additional 1.3 acre of impacts may be required for widening Proctor Valley Road North.

^d Unvegetated stream channel is also an overlay within various vegetation communities, and is, therefore, not fully represented in this table. See Section 5.4, Jurisdictional Aquatic Resources, of this report.

^e May not total due to rounding.

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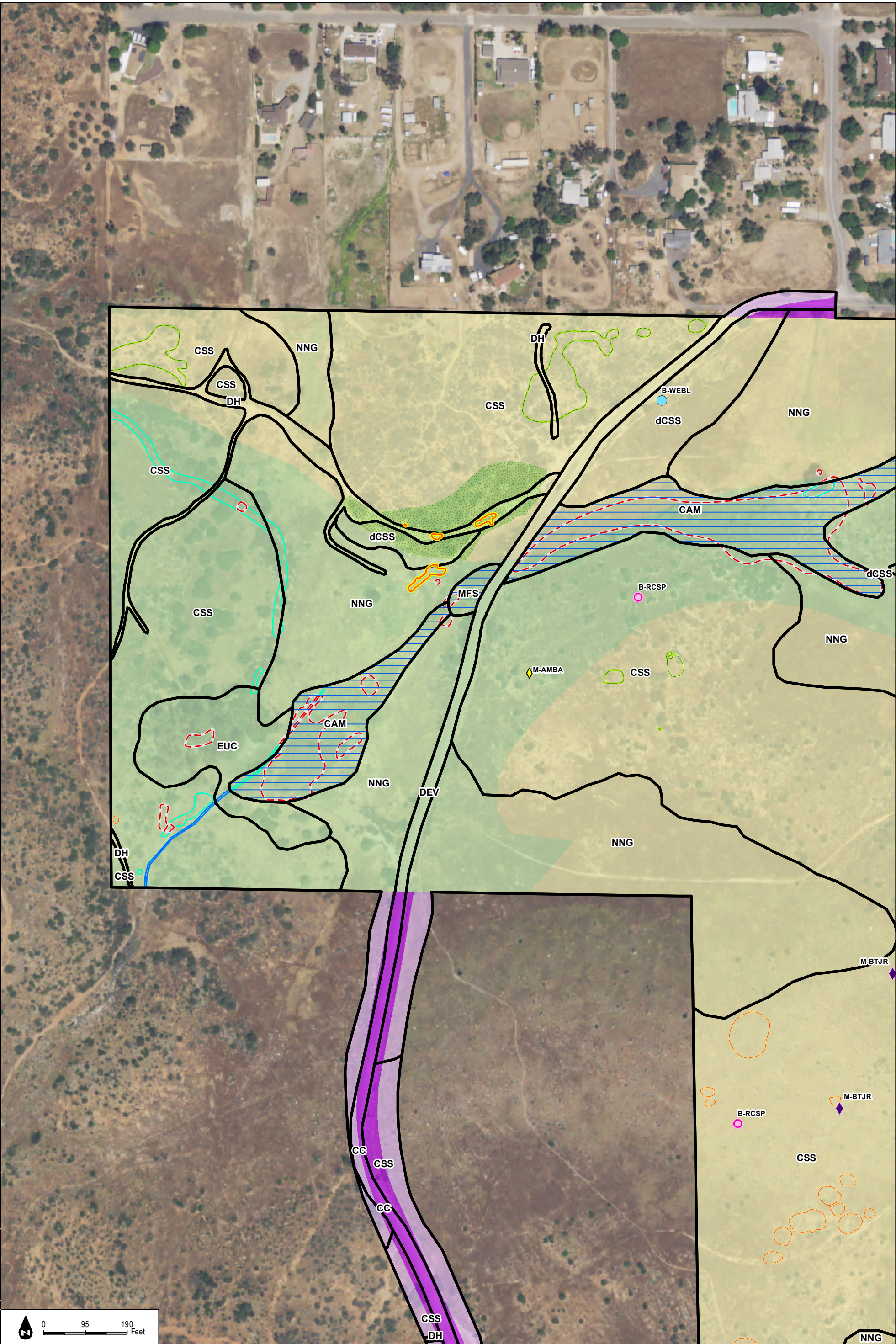


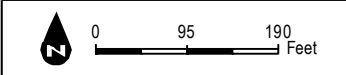
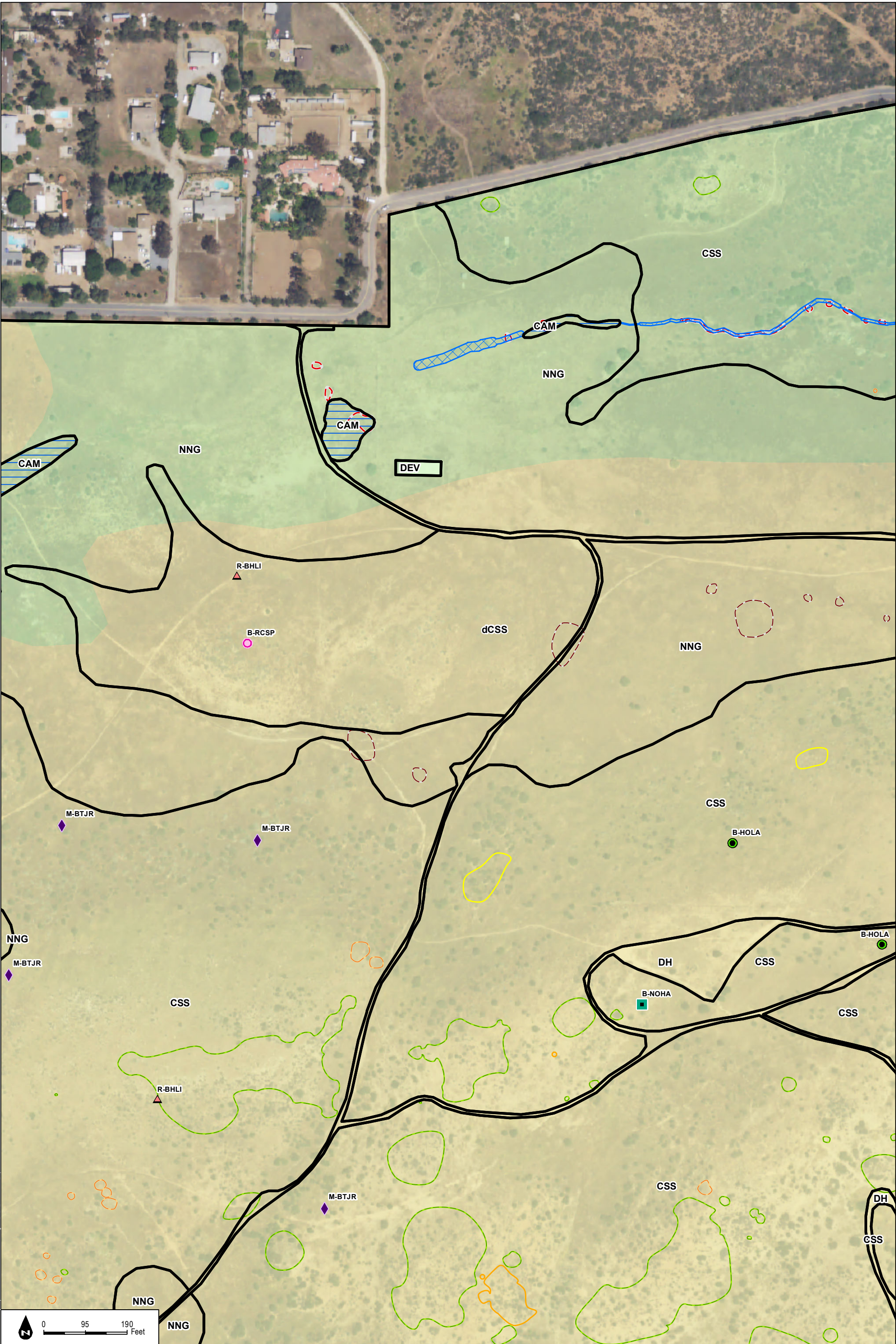
Figure 5-1a
Impacts to Biological Resources

SOURCE: NAIP 2016; Hunsaker 2017

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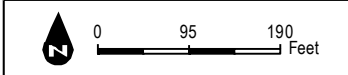
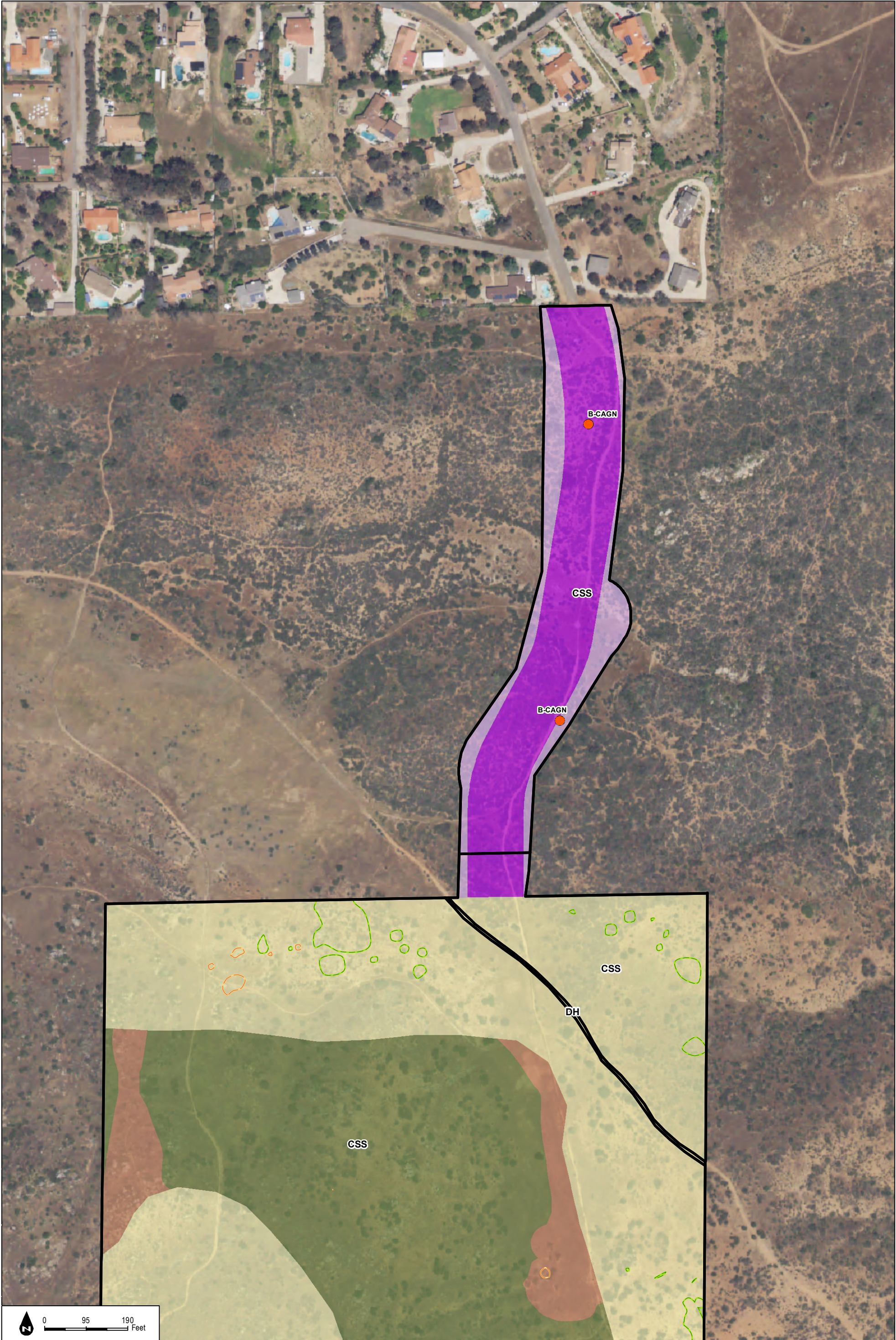
Figure 5-1c
Impacts to Biological Resources

SOURCE: NAIP 2016; Hunsaker 2017

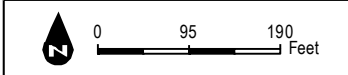
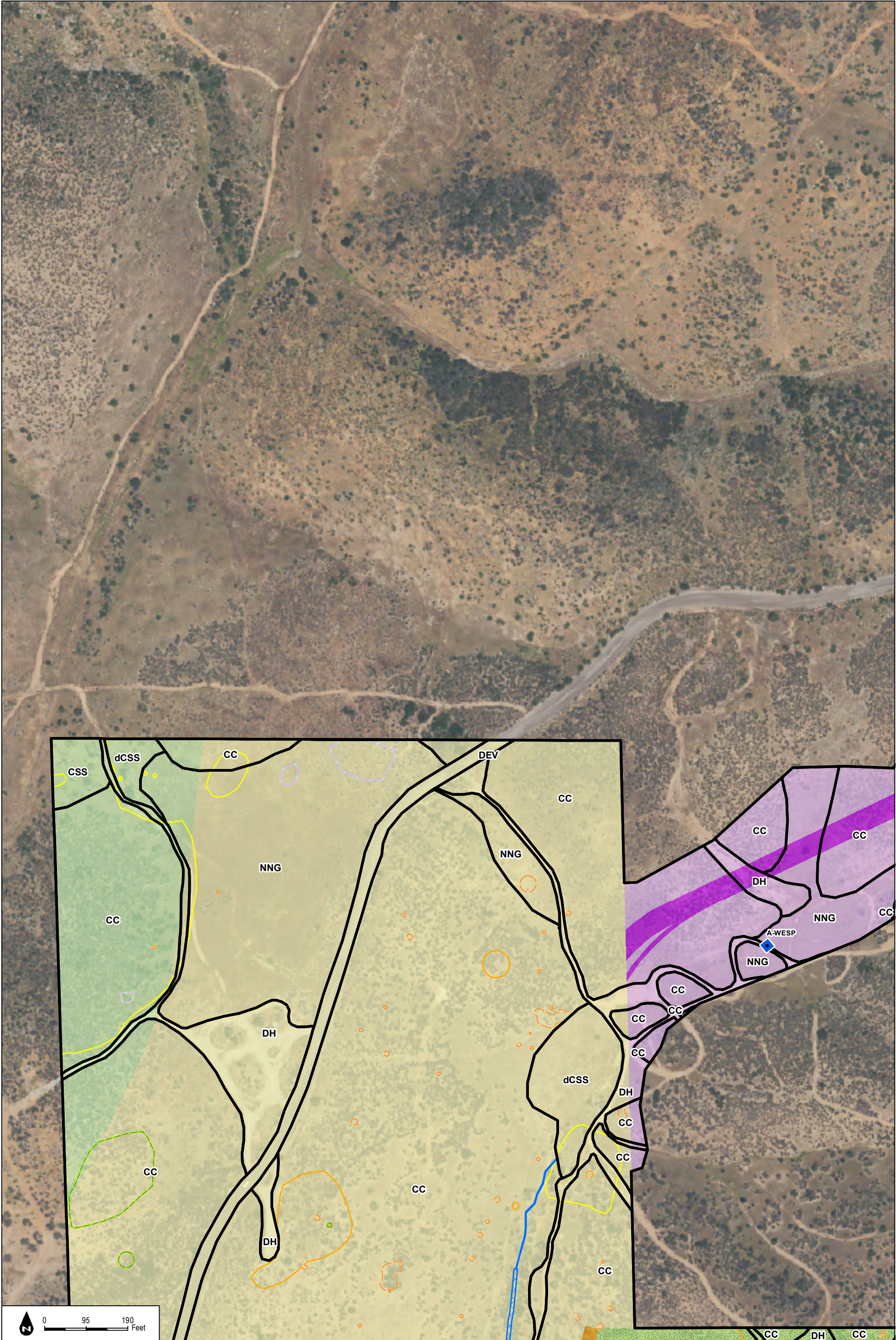
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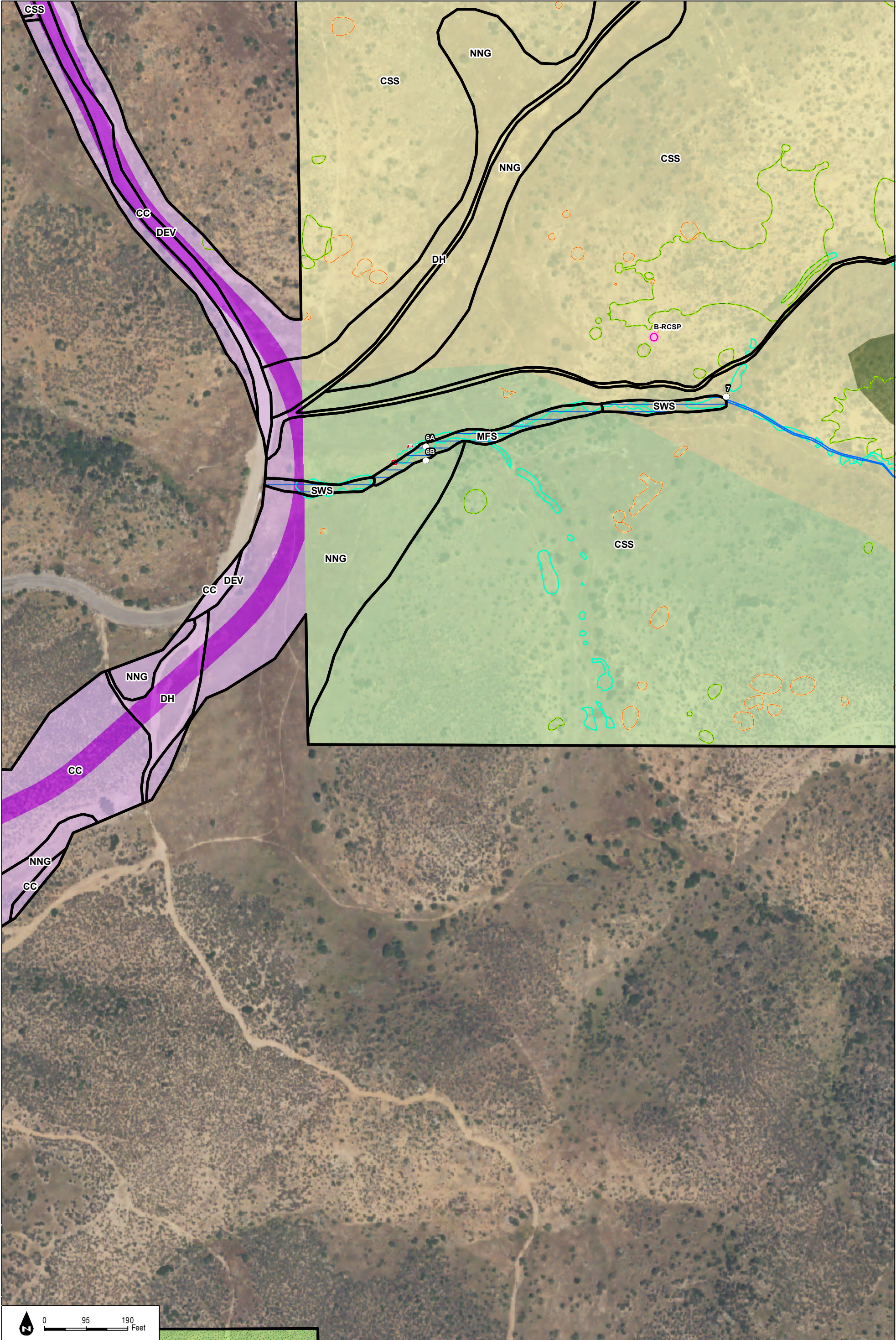
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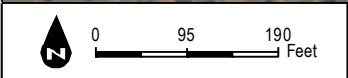
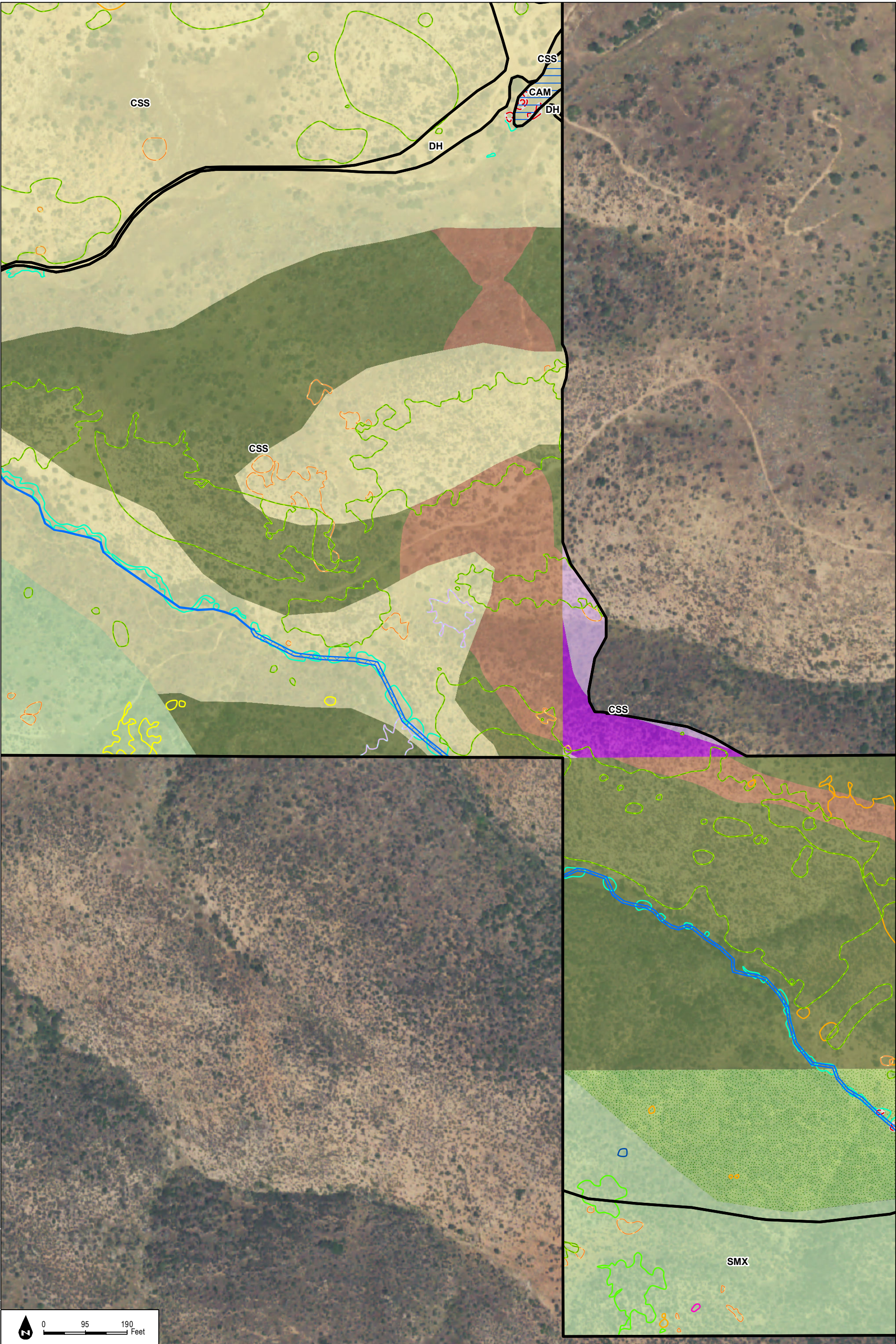
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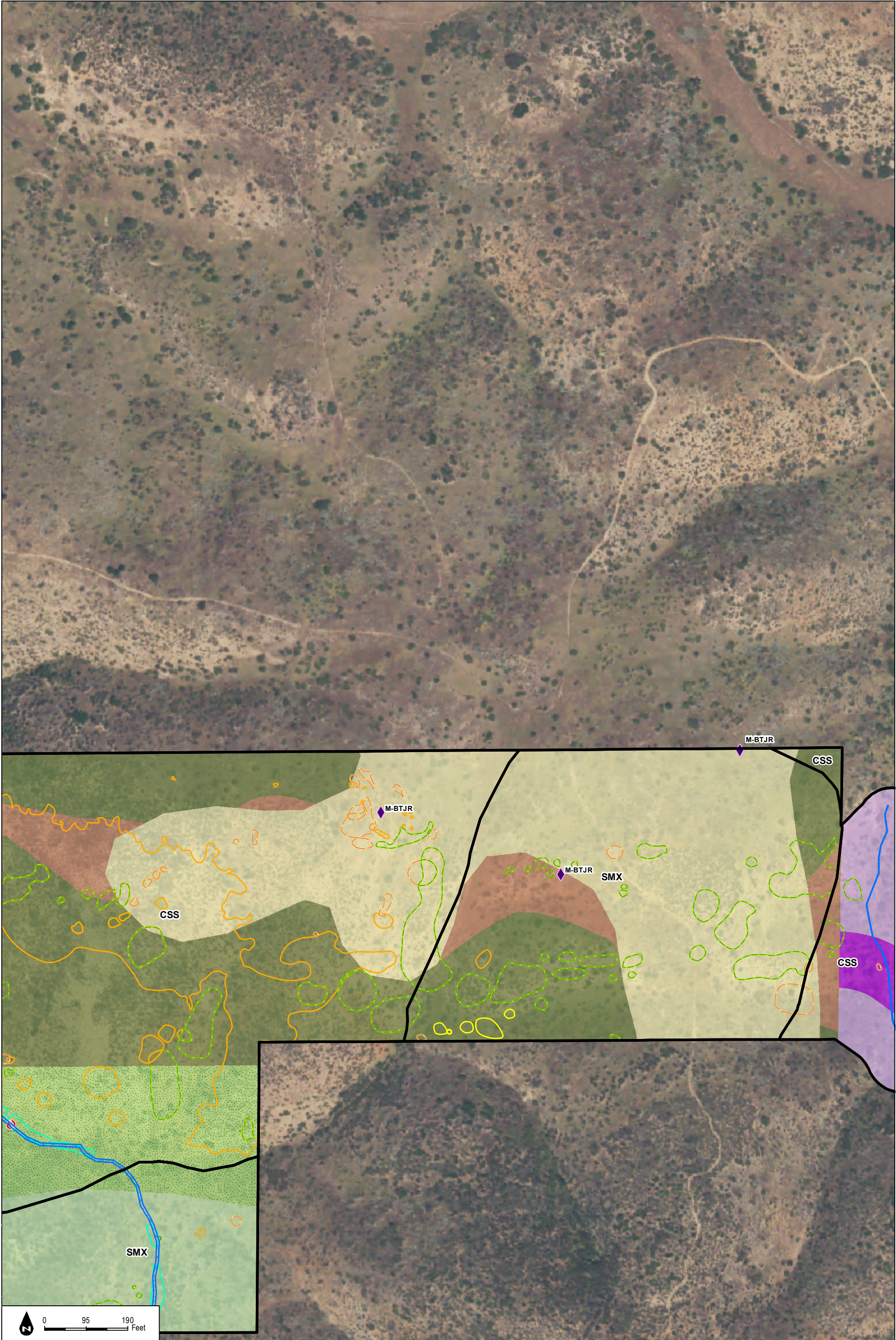


Figure 5-1h
Impacts to Biological Resources

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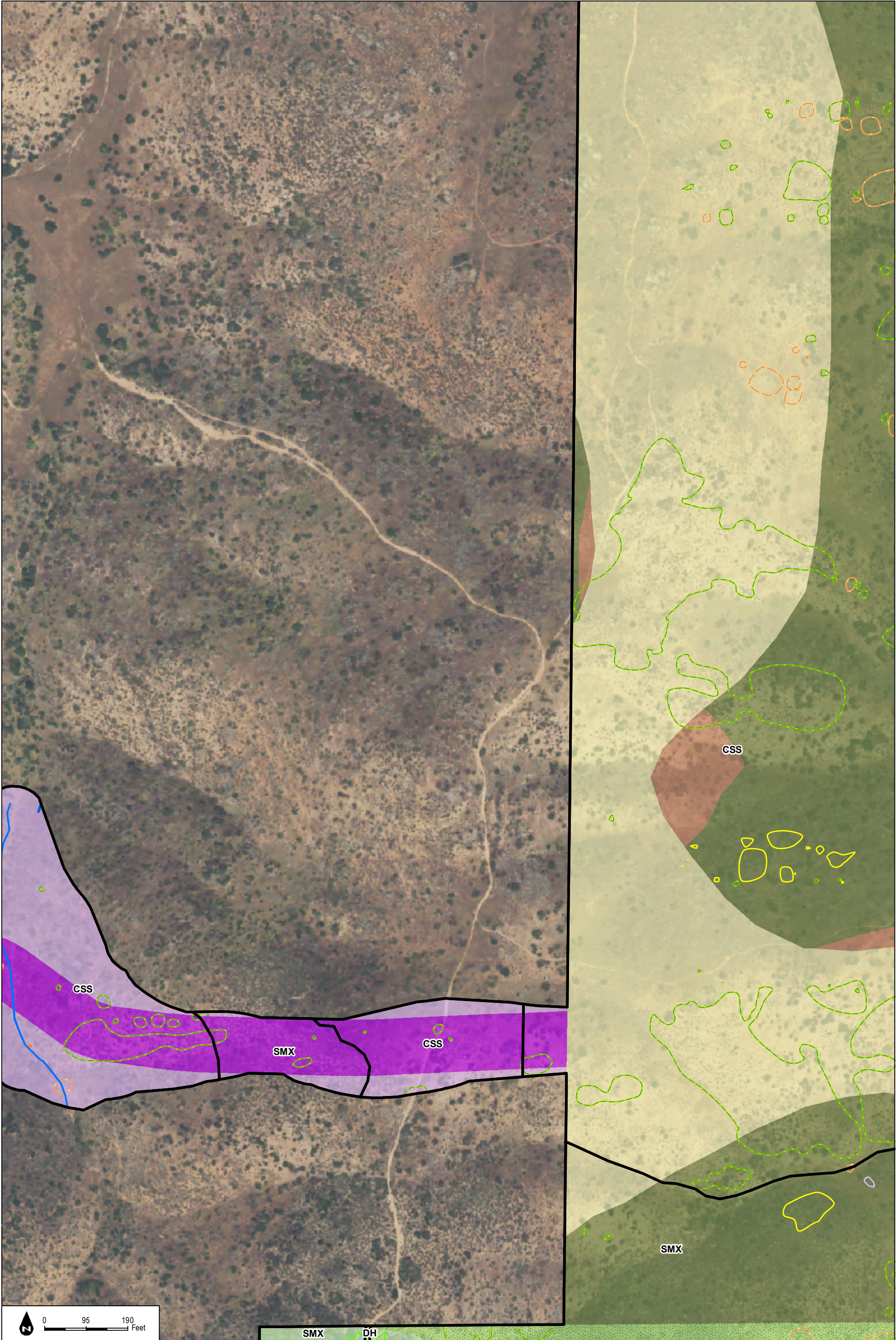
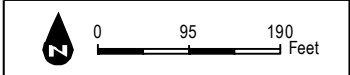
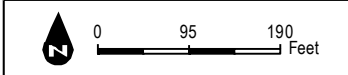


Figure 5-1i
Impacts to Biological Resources

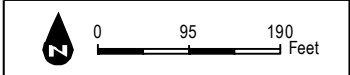
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